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**GLEANINGS IN
BEE CULTURE**

A JOURNAL
DEVOTED
TO BEES,
AND HONEY,
AND HOME
INTERESTS

ILLUSTRATED
SEMI-MONTHLY

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A KINK given by W. H. Pridgen in *Review* is this: The slats to which artificial queen-cells are to be built should be soaked in melted wax until there is no bubbling or frying, before any attempt is made to fasten cups to them.

THAT ADVICE, "Keep your colonies strong," is well worthy of Quinby, the grand old man to whom Doolittle credits it (page 649); but I think it's older than that. The first edition (as well as the last) of Langstroth says: "The essence of all profitable bee-keeping is contained in Oettl's golden rule: *Keep your colonies strong.*"

IF DOOLITTLE CELL-CUPS are to be regularly used, why not have them listed as a regular article of bee-supplies? [We have been thinking of having them listed in our catalog. While the making of the cells is a comparatively easy job, it takes experience to make them just right; and as we have learned how to make them acceptable to bees it might be well for us to list them as an article of merchandise.—ED.]

I'VE READ of a wax-worm smaller than the common kind, and within a week have seen it in two apiaries. It has no gallery among the cappings; indeed, I don't know that it has any gallery. Its presence is indicated by the wriggling of one or more young bees unable to leave the cell. Pull out the bee, and at the bottom of the cell is a worm about $\frac{1}{2}$ inch long, slender and very lively. A sort of web is fastened to the young bee.

IS IT SURE that an "extra fancy" grade would have a tendency to "bear" the honey market? There are some who pay an extra price for eggs dated and known to be strictly fresh, and dealers don't complain that it lowers the market price of eggs. [This is the way it struck me at first; but Niver tried to

coax me out of that notion. Sometimes I think he is right, and sometimes I think he is all wrong on this particular point.—ED.]

THE PROBABLE REASON why royal jelly is used from queen-cells for Doolittle cups rather than the pap from worker-cells, is that it is so much easier to get it in quantity from the queen-cells. Possibly, however, there may have been a thought of difference. [You are right. At first I thought that, if we could use the food of worker larvæ, it would be quite an advantage; but I have since talked with Doolittle, and it now appears that a single cell-cup containing royal jelly will be more convenient, because it contains food enough for a dozen or more cells, while a worker-cell would contain hardly food enough for one cell.—ED.]

I TRIED H. L. Jones' method of clipping queens (page 641). The queen seemed determined to twist off her leg. Finally, after spending three times as much time as in the usual way, I got her clipped. Then I tried to liberate her "right on the combs by simply taking the weight off her legs," and she ran up my finger, just as she always does when I don't let her run on a leaf. I tried the Jones plan on several other queens, fastening my thumb on the legs instead of the leg, and heading the queen toward the point of my finger, and I feel pretty sure that, for one who hasn't become accustomed to either way, his plan is better than to hold the queen by the thorax. Indeed, I think it likely I shall be a Jones clipper the rest of my life.

"A CAGED QUEEN may be laid at the entrance of any populous colony during the working season, and the bees will cluster over the cage and care for the queen just the same as though she were inside the hive."—*Review*. Two years ago I used a lazier plan than that. I threw a caged old queen at the foot of an apple-tree in the middle of the apiary. A few bees came and clustered on the cage, as they often will. Then I threw another old queen there, and in the course of a few days there were a dozen or so of them. They stayed there for weeks, through rain and shine. An amusing feature was that, although the cluster

was never as big as my fist, it swarmed very frequently (of course always returning), sometimes several times in a day.

FOUL-BROOD INSPECTOR N. E. France says in a circular giving treatment for pickled brood, "Never make your bees use old black combs." Can it be possible that is meant literally? I have always supposed that for *healthy* bees old black combs were the best. [Inspector France may be right; but if so, it would be the part of wisdom for bee-keepers all over the country generally to discard a half or two-thirds of their combs. This would mean a very expensive change, and would cost the bee-keepers several million dollars if all should make it; but old combs have been used years before, and are used now, continuously, and yet no pickled brood is found, I was going to say, in ninety-nine out of one hundred localities.—ED.]

H. L. JONES clips queens before selling (641). Wouldn't customers object to that who want the queen to fly with the natural swarm? And wouldn't a customer who practiced natural swarming (if that expression may be used), and who didn't know of the clipping, get into trouble with such a queen? His plan of cutting one larger wing a little makes it difficult to notice that she has been clipped, he says, but that's just the trouble. That sort of clipping has fooled me more than once into thinking the queen was not clipped at all. So I want both wings on one side clipped, and pretty short at that. [From a queen-breeder's standpoint I should prefer to clip *a la* Jones; but from a producer's standpoint I should prefer to clip both wings.—ED.]

THAT IDEA of having cards printed in colors to show the different shades of honey is well worth considering. Try the Prang Co. [If I can find time I will try to develop this idea; and yet I have less confidence in it than when I first suggested it in this department. Why? Because I have since been looking at a lot of samples of honey; and for the life of me I do not see how any ink-maker could produce shades of *opaque* color that would at all resemble shades of *transparency* color; or, to put it another way, a liquid or substance through which one can see has a different shade from one of exactly the same color through which one can *not* see. For example, ink in a bottle produces a different effect on the eye than ink when spread on a paper. The shorthand notes from which this is copied are being taken in a bright-red ink; but as I look at the bottle from which the ink is taken (holding it up to the light), it appears to be much lighter in color, giving the effect of a very light wine tint.—ED.]

A HYBRID QUEEN will not do for a breeder, because she is not of fixed type. A first cross will show workers that in looks are pure black, and others that are pure Italian. Yet the majority of hybrids, where Italians have been kept for years, are more nearly uniform in character. While pure Italians may be the best in the world, a persistent breeding from

the *best* hybrids would in most apiaries result in great improvement, and just possibly a hybrid strain *might* be established better than pure Italians. At any rate, the man who breeds from his *best* hybrid queen will do better than to breed promiscuously from *all* his hybrids. [Very possibly you are right, and I hope, therefore, you will proceed to develop the possibilities of that one queen whose bees are producing so much more honey than the rest in the yard. I would call them the Miller strain of hybrids. Say, now; if we can get up a rivalry between the queen-breeders of the country, so that they will strive for *business* instead of *color*, we shall have something that will put dollars into the pockets of bee-keepers.—ED.]

THAT EDITORIAL, "Honey not Advancing, and Why," p. 652, puts the responsibility just about where it belongs: "Commission houses and honey-buyers, many of them, are offering little if any better prices than ruled in 1897." But you're hardly right in saying, "One, two, or three houses can't advance unless *all* do." Your first statement contradicts that, when you say, "many of them." The fact is that one, two, or more *have* advanced. Each market has always stood more or less independently, and any one can advance its own quotations. Brethren of the commission and buying business, some of you are doing us and yourselves a decided *wrong* in publishing the figures you do. A card handed me since I began this Straw is from M. H. Mendleson, and says: "White honey at a premium here this season. Prices nearly double those of 1897." [On reconsidering, and after hearing the discussion of this same question at the Philadelphia convention, I shall have to acknowledge that you are right. If two or three of the *best* houses advance, and especially if these same houses can get a corner on the market, prices are bound to go up. It is an interesting fact that two or three of the large concerns are now trying to obtain all the honey there is to be had, because it is a scarce article; and it is another interesting fact that there are carloads of honey that are held back awaiting better prices. Mr. York, for instance, editor of the *American Bee Journal*, says he knows of five carloads of fine honey that are awaiting an advance. If some of these large honey-buyers who see this will write to Mr. York, perhaps they can obtain these five carloads *providing* they are willing to make a big enough price. Since attending the Philadelphia convention I am satisfied that the markets must make a sharp advance before very much honey will be seen on the market.—ED.]

A. T. S., Iowa.—After the first swarm is cast, the parent colony is liable to send out a second, third, and possibly a fourth swarm, each one smaller than the one preceding; and these several swarms may follow each other on subsequent days, or there may be an interval of two or three days or a week between the swarms.



The torrid days, the chilly nights,
Bespeak th' approach of fall;
The few bright flowers that still remain
Now constitute our all.

Between a very bad season and preparations for the Philadelphia convention, world-changing events in apiculture are scarce. Old standard subjects, such as wintering, size of hives, etc., are thrashed over with some vigor, but things in general are quite monotonous.

AMERICAN BEE JOURNAL.

M. D. Andes gets drone brood out of combs by setting the frames containing it against a fence and letting young chickens pick the larvae out. Probably large fowls would knock the combs to pieces.

On page 532 is a view of a barn owned by Jacob Huffman, of Wisconsin. It is 36×40, and was paid for by the honey crop of one season. In 1885 he sold 14,000 lbs. of extract-honey and 6000 lbs. of comb honey, which sold for \$1280. Owing to the cutting-off of basswood timber around him his yields now are not so good.

Mr. York prints the name of this journal with a hyphen in *Bee-Culture*. Why not use one in *American Bee Journal*? Proper names should be printed as the owner writes them. Surely the hyphen should be omitted in the case cited.

The value of a question-box has been questioned, as the answers therein are often widely divergent one from another. For all that, I believe in the box, for even the divergence in answers is often a source of new knowledge. Only by getting the position of the moon from points thousands of miles apart on the earth can we determine her distance; and so ultimate truth can be arrived at in some matters only by comparing notes.

E. E. Hasty, living a short distance north of Toledo, Ohio, reports his bees, Aug. 7, as gathering a fair quality of surplus. He says: "Earl Baker, a young apiarist in the edge of the city, has been harvesting quite a lot—presumably sweet clover, which is plentiful down there."

Sometimes a correction does not correct. An amusing instance of this kind comes from A. B. Bates, of Missouri. He desires a certain passage to read thus: "The atmosphere above retains the heat, etc., and the warm atmosphere coming in contact with objects of the earth's surface, contract and give off moisture." Of course, the above means nothing, and I suspect Mr. York printed it thus by way of a joke. Try it again, Mr. Bates.

Mr. J. C. Carnahan, foul-brood inspector of Mesa Co., Col., in writing about foul brood, says: "We have a little foul brood, confined to one end of the valley, but hope to have it soon stamped out. We are using radical measures, hoping the sooner to get rid of it. We burn it—bees, hive, and honey." If every county in the land, where foul brood is known to exist, had an inspector like that, this great scourge could soon be subdued. It seems to some folks that the attempt to save the sound part of an infected colony, and destroy the diseased part, is poor economy.

W. A. Pryal states that one dealer who has been handling honey for 20 years in San Francisco has, in the past two months, sold more honey than in all his previous business. Honey is now worth there 7 cts., while last season it was only 3.

AMERICAN BEE-KEEPER.

In speaking of the difficulty in making a bee-journal composed of matter that is equally well adapted to the needs of all, the editor well says:

It is doubtful if ever a preacher or a lecturer has succeeded in addressing even a local assemblage to the entire satisfaction of all his hearers. How much less, then, is it possible for the editor of a bee-paper to make up his journal entirely of matter that will interest and please each one of the vastly greater multitude constituting his audience! That which is of practical value to the bee-keeper of New England or New York is seldom capable of practical application in the hands of a California or Florida subscriber; yet each has equal rights in the paper for which he pays. And, if he is progressive, he will certainly be interested in proportion to the character and extent of the information conveyed through any foreign communication.

According to the authority of J. M. Hambaugh, California raised, in 1870, 3750 lbs. of honey, and in 1876 the large amount of 3,500,000 lbs. Its product for 1899 would be interesting reading.

In replying to Mr. York's editorial on the use of cans in preference to barrels for honey, the editor says: "We have no fear but good barrels will stand on their merits, and in extensive apiaries long remain as a package for honey; but with the small bee-keeper, with whom honey-producing is but an avocation, a smaller receptacle will doubtless be more popular."

Mr. Hill gives a view of a covered apiary he established on the Indian River, Florida. It was simply a double roof supported on upright beams. On the following page is a view of the same apiary after it was struck by the recent hurricane that devastated Porto Rico. The effect, like the hurricane, is "striking." The destruction was complete. When Mr. Hill first saw the ruins he said, heroically, "It's pretty rough on the bee business, but a rather interesting subject for the press. Bring my camera."

In speaking of the myriads of mosquitoes and sandflies at Blue Hole, the name of the

place where Mr. Hill's apiary is situated, he says these winged torments are numerous enough to give the place its name. He says, further, it is a noteworthy fact that the best honey locations are usually found where the insects are most numerous. Among other "drawing cards" that render his place attractive, Mr. Hill mentions snakes. While removing combs of honey for the extractor from the hives in the old house, a yellow snake six feet long dropped with a dull thud at the feet of Mr. Hill and his helpers. The apparent escape of the dreadful reptile seems to have been due to Mr. Hill's "sympathetic nature."

Replying to an article written by the editor of the *Chilean Bee-keeper*, Mr. R. A. Sanhueza makes a few corrections. He says Italians were introduced into Chile in 1834 instead of 1865. Mr. S. says his bees have averaged, for the past three years, 134 lbs. per colony, and some colonies have yielded a maximum of 182 pounds.

H. L. Jones, of Australia, says those pests of the hive, laying workers, should not be spoken of in the singular number. He says that on several occasions he has found laying workers present in sufficient numbers to lay over 20,000 eggs within 24 hours. He proved it by placing a Langstroth frame, containing between 7000 and 8000 cells, in the center of a fairly strong colony infested with laying workers, and within 24 hours he found that about three-fourths of the cells had eggs deposited in them, each cell containing from one to a dozen eggs, with an average of at least four eggs to each cell. He concludes that in this hive there must have been some hundreds of laying workers.



A BAD LEAK.

What Time of the Day do Prime and Second Swarms Come Forth? how shall we Prevent their Escape to the Woods?

BY E. E. HASTY.

And what gets out at the bad leak? Why, swarms of bees leak to the woods when their owner is not watching. And he's not watching because he has got somehow the notion that bees very rarely swarm after two o'clock. Worse than the Dutchman who can't see after four o'clock, he can't see after two o'clock, poor *Sapiens Apicus* can not.

Apparently bees swarm during the first available three hours after they are *ready*; and that special state of readiness arrives as often one hour as another, *day or night*. The night hours not being available, it follows, as a matter of course, that the three first available hours of the day have not only

their own swarms but those properly belonging to the twelve or more hours previous; that is to say, five times their normal number of swarms. The succeeding hours seem destitute in *comparison*, but that does not make afternoon swarming abnormal at all. The colony that gets ready at one o'clock is going to swarm that afternoon, if weather is warm and fine. Can we afford to lose these swarms just because the morning hours put out five times as many? If we have five swarms during the expected hours, that does not make the one swarm due during the unexpected hours any the less valuable, or any smaller as a loss. I am pretty well convinced that the afternoon hours really yield more than their normal number of swarms when the thermometer gets up into the eighties and nineties. Swarms that are *not* quite ready begin to pick up and go.

It is tolerably well known that after-swarms will often start during hours that prime swarms would consider unavailable — very early in the morning, or very late at night — or even occasionally when it is raining slightly. In their case it is not so much readiness as *dander* that determines the moment of starting. The sharpness of the antagonism between the queen who wants to destroy the young princess and the workers who are determined to save her, gets more and more pronounced until the explosive point is reached. Probably those workers who were trying to be neutral in the fuss start first for the door, and the angry queen soon decides to go along rather than continue her useless attack. It may be that keeping these curious facts in mind rather helps on our oblivion to the leakage of some of our best prime swarms. We say, "If now and then an after-swarm does get away, why, they're small affairs anyway."

I chastise myself quite severely for one thing concerning this matter. Ever since I have kept bees I have kept a record of my swarms; and yet until the latter part of this present swarming season I have never put down the hour. If I had only done this the required proof (or disproof) would be a very simple affair. Although so slack about accumulating proof, I have long been aware that the prevalent idea was wrong; and although my statistical horse is a short horse I'll let him trot just as he is.

The ordinary swarming season was famine time at my yard, consequently few swarms, only about 13 previous to June 3. On the day just mentioned I had my mind freshly stirred on the subject by a prime swarm coming out at five o'clock. The next day there were a prime and two after-swarms, the precise hour of which I can not now tell. Same remark applies to two after-swarms on June 6, at which point I resolved to date more precisely all my swarms. The previous day, June 5, a prime swarm came out at 3 P. M. As they clustered in a difficult place, and I wanted to do something else at the time, I conveniently "allowed" that such a late swarm would stay over night any way; but at 4:15 they waved me adieu and went to the woods. On June 7 two prime swarms came out and tangled to-

gether at 11 A. M. On June 8 a prime swarm came out at 3 P. M. There were no more seen till June 14, when a prime came out at 4:20 P. M. The next one seen was a very small after-swarm, July 1, also 4:20 P. M. The next one seen was another little one-mouse affair July 28, at 2:15 P. M. Being too small to be worth bothering with, these were left to their own devices. They stayed in cluster the rest of that day and all the next day, and disappeared about noon of the third day. The last swarm, so far, came out August 8, at the orthodox hour of 9:30 A. M.—a pretty good swarm which I was glad to see, because I needed them for a special service.

This record comprises so few swarms and so short a time that the accidental element weighs too heavily. If we draw conclusions from these instances alone we should conclude that bees swarm mostly in the afternoon. And some of these primes may have been primes with virgin queens, and therefore more or less subject to after-swarm rules.

But what shall we do about it? watch as a cat watches a mouse all day long? Not necessarily. Life is too valuable to make it a slavery for so small an object. There are some things, however, in which we can mend matters a little without very much surrender of our free hours. But don't trust much to the eyes of folks who are not bee-folks. A hundred colonies of bees make quite a roar, and send out quite an array of workers right straight along. A layman is quite capable of keeping the apiary under his eye most of the time, and yet allow a swarm to fly and cluster, and he be blissfully unconscious of it all the while—ready to make oath in court that there was no swarm. Worse than that by far, I find that I can do the same bat's eyed exploit myself, if I am thinking of something else, and not loaded for swarms. Am not anxious to figure as a slanderer of the brethren, but I strongly suspect that I am not the only bee-keeper who lets a swarm cluster under his nose (on his beard, as it were) and does not see them. We can see them better by expecting them, and keeping ourselves mentally on duty when at work about the apiary in the afternoon.

But our best resource is to make a careful search of the surrounding trees and other handy clustering-places once or twice in mid-afternoon, and again just before dark. And don't be too sure a late swarm will not go the same afternoon. As a slight further help a little chopping-down of useless and sly hiding-places, a little clearing-out of jungles where one might almost expect a tiger, and a good deal of thinning-out of the twigs of too dense tree-tops, would fix our surroundings so that much less time would suffice to go the rounds.

Richards, O., Aug. 16.

[It has been generally stated as a rule, I believe, that it is not necessary to watch for swarms before 9 A. M. and after 3 P. M.; but I have myself many times seen exceptions to this rule; but those exceptions seem to have been cases where a swarm tried to go forth and was foiled in its attempt by some device

of the bee-keeper in the shape of perforated zinc or a clipped queen. After the bees have tried once, and have been compelled to go back, next time they *may* become desperate, and violate *all* rules. In the height of the swarming season we have sometimes found it necessary to go the rounds of our apiary and look over the evergreens surrounding the yard to see if there were any swarms that had come out and clustered without our knowledge. I remember one year, when we were having from six to eight swarms a day, I found it a good idea after dinner to go around the trees to see if I could find a cluster that had come out when we were at dinner; and I have on several occasions found a swarm hanging as quietly as if it had been hanging there all day. If the search had not been made, possibly our only knowledge of these bees being out would have been their final departure for the woods. How we may stop leaks of this kind we may very properly consider.—ED.]

BEE-KEEPING ON THE HOUSETOPS IN CINCINNATI.

Honey on Commission and Outright Sale.

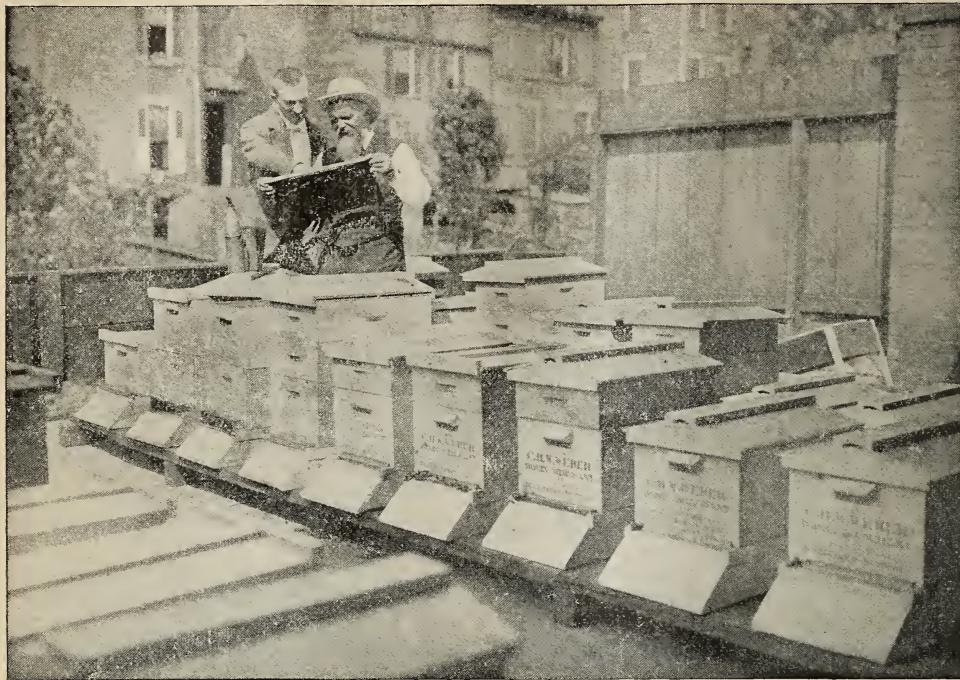
BY FRED W. MUTH.

Friend Ernest:—Thinking it might be of some interest to you as well as the many readers of your esteemed journal, I send you a photo of our apiary, situated on the top of the house. We are not blessed, as many are, with a yard, but have it just as convenient on the roof. The neighborhood is thickly populated, while the bees, being so high (four stories), do not bother any one. From July 1st to 10th they just rolled in sweet-scented clover, which grows so plentifully on the hilltops that surround this beautiful city.

You will notice we are using eight-frame Dovetailed hives. I find they are easier handled than the Langstroth, but it remains to be seen if they are as cool as the L. is in the hot sun, as our roof is partly in the sun all day.

You will notice Mr. Weber, with a comb of brood in hand. He does enjoy his spare time among his bees. About 25 feet from where the bees now stand Mr. W., some 32 or 33 years ago, while in the employ of my father, assisted in transferring his bees from the old box hives to the then new Langstroth hives; so you see he is no stranger at the business. He bought this business, as well as the house, the 1st of April. He has quite a large retail seed trade, besides doing a nice grocery business. He engaged me to manage the bee-supply and honey department. I have been connected with a wholesale grocery of this city for about ten years as salesman; have always been a lover of bees and the honey business, and after reading the journals for years I think I can make a success.

Cincinnati is quite a market for extracted honey. The old firm sold tons and tons of it. It is not the small consumer who uses the greater part of the honey produced, as so many seem to think. While our city, with its



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immediate surroundings, can well boast of nearly 650,000 people, and a good many eat honey, yet the real consumer is the manufacturer who buys in quantity and buys often.

It is a big mistake for bee-keepers to send their honey to commission houses to sell. The reason is, the commission merchant is not posted as to the different qualities and their respective values. They generally take the first offer made on honey, just to close the account. They don't take time, and they haven't the time to look up the trade that buys honey; and then, again, the manufacturer doesn't buy from him unless it is a bargain. The manufacturer does not look to the commission man for his honey, and it is he who ruins the market on extracted as well as comb honey. I will give you an instance:

The other day we had a lot of ten barrels of the finest clover I have seen for a long time. I took a sample and called on several parties. The very first man I called on bought a snap of several barrels the day before from a commission house (the manufacturer tried to tell me how cheap honey was), and at such a price that I felt inclined to buy at those prices myself. The bee-keeper, I think, was hurt more by that sale than I, because when Mr. Commission Merchant takes out his drayage, commission, and I don't know what else, I think the bee-man had very little left. Then, again, the quotations the bee-keeper gets from him are entirely different from what his net proceeds are when he receives his check for his consignment.

We do not handle honey on commission, but buy for cash. When the bee-keeper sends his honey to us he gets exactly what we quoted to him. There is no drayage and commission and snap sales.

Cincinnati, O., Aug. 2.

[Perhaps I should explain that C. H. W. Weber, an old neighbor of the late Charles F. Muth, bought out the business and good will of the firm of C. F. Muth & Son. Another son (not the one with the old firm), who has been away from home for some time, and who has been connected with the grocery business for the last five or six years, but who worked along with his father years ago, has been retained as manager of the honey business for Mr. Weber. This is Mr. Fred W. Muth, a young man of sterling qualities and of considerable business push and sagacity. As did his father, he believes in the principle of buying honey outright, and that is the policy to be pursued by Mr. Weber.

Some little time ago I spoke of the visit that the junior Muth made here to get "pointers" on modern bee-supplies and modern bee-keeping. It was this same gentleman who was associated with his father years ago, when the latter bought honey by the carload and even by the boatload. Mr. Muth told me that his father would have at times as much as \$40,000 worth of honey on hand, most of which was sold to manufacturers. The senior Muth did more than any one else, perhaps, to introduce honey among bakers; and now it

has come to pass that some of the large baking concerns are using cheap honey in ten-carload lots. But real honey they must have and will have. Mr. Muth told us if there is the least amount of glucose in any of the honey it "spoils the cake." The consequence is, the manufacturers require an absolutely pure article, and they have come to learn where they can buy such goods; and, what is more, they can not very well be fooled either, for they know adulterated honey as soon as they taste it.

With regard to keeping bees on housetops, this is done in quite a number of cities. Provision needs to be made, however, for reasonable shade, otherwise combs are liable to melt down. The Muths have kept bees on the roofs of their buildings for years; in fact, if I understand it rightly, it has been the only place where they could keep bees, as land, especially in the business portions, is so very expensive. And then there is another point; namely, that, when bees are put up four or five stories high, they will not interfere with passers-by on the streets below. But during times of robbing, if some commission house or candy-store should leave sweets exposed, there would be music in the air—music of humming bees, of frightened customers, and of irate dealers. Just how this problem is managed, we leave for Mr. Muth to explain at some future time.—ED.]

HONEY IN PLAIN SECTIONS.

The Danzenbaker Hive; those $4 \times 5 \times 1\frac{3}{8}$ Sections v.
the Old Style $4\frac{1}{4} \times 4\frac{1}{4}$.

BY PERCY ORTON.

As a producer and seller of honey, and as a reader of GLEANINGS, I should like to have the following questions answered through that journal:

1. What size of section did W. H. Swoap use to realize 2 cts. more per lb. for his honey, page 541?

2. How under the sun do you expect to get worker combs built by bees from starters in those Draper barns? You know such deep combs would stretch, and a very large amount would be drone comb. Bee-keepers can not afford to buy full sheets of foundation for such large frames.

3. You adopted Danzenbaker's cover and bottom-board for your lock-corner hives; why not the body and frames? Bees build fine worker combs from half-inch starters in his frames. His supers I consider the best on the market. Honey made in Danzy sections $4 \times 5 \times 1\frac{3}{8}$, in connection with the fence separators, I am selling for 13 cts. each, buckwheat honey at that. Last year I sold $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{5}{8}$ sections in the same market for 8 cts. each. We have just as good a crop of buckwheat as in 1898. You can see the difference between a back number and something up to date. I think all $4\frac{1}{4} \times 4\frac{1}{4}$ sections should be gathered up this fall, taken to some swamp, and stamped out of sight in the mud. The $4\frac{1}{4}$ section looks like a squat old woman. Let us all

adopt for 1900 the tall American lady, the $4 \times 5 \times 1\frac{3}{8}$ -inch section.

4. What hive does Vernon Burt prefer? also, what style of plain sections, page 544? He seems to be a very successful comb-honey producer. For my own benefit I should like his views. I think it would help others.

5. That man Brown, page 535, is mistaken when he says the Danzy hive has too much "kindling-wood" about it. None too much, friend Brown, to produce the finest sections of honey. "The more haste the less speed." Try some more of those hives, and then apologize to Mr. Danzenbaker.

In reporting my last winter's loss of bees, which I have not done before, it makes me think of an old elder in the Presbyterian Church in our village, who went down on the river flats to see his buckwheat after an early frost in the fall, which had ruined it. On his way back to the house he met his son Burr, and said, "We had a *noble* frost last night, Burr." I don't know that I felt as Bro. B. did when I examined my bees last April, and found I had had a "noble" winter loss—63 dead out of 65 colonies; but I am happy to say that I have at this date 58 which are working on buckwheat. I am using 50 ten-frame chaff hives and 15 Danzy. I am going to buy 35 more this winter.

Northampton, N. Y., Aug. 12, 1899.

[1. W. H. Swoap probably referred to $4\frac{1}{4} \times 4\frac{1}{4}$ plain sections, because we find that the only plain sections he ever got of us were of that size. 2. If the foundation is medium brood it ought not to stretch—at least not enough to cause drone-cells. At certain seasons and under certain conditions bees will make *worker* comb instead of drone; but during the swarming season I should expect a good deal of drone, and it might be necessary then to cut the comb out and use it for chunk honey, as does H. R. Boardman. As to how to get the bees to build all *worker* comb, I would refer you to Mr. Hutchinson's "Advanced Bee-keeping." 3. We are not doing the adopting; but if bee-keepers want the Danzy hive we are prepared to let them have it. A good many favorable reports have been so far received regarding it—especially for the production of comb honey. Mr. Vernon Burt, our neighbor bee-keeper, is very partial to it, and says he will discard the eight and ten frame Langstroth hives for the Danzy, pure and simple. 4. This question is partly answered by 3. Mr. Burt prefers plain sections, 4×5 Danzy, to the $3\frac{3}{8} \times 5$. In corroboration, see article from T. K. Massie, just following.—ED.]

THE DANZY HIVE.

Also Something about the Danzy Super, 4×5 Plain Sections, and Fence Separators.

BY T. K. MASSIE.

Wishing to see exact justice meted out to all, and being wholly disinterested, having no personal interests at stake, I wish to say a few words in behalf of the Danzenbaker hive, 4×5

plain sections, etc. I have 40 of the "Danzy" hives in use this season, and unhesitatingly pronounce them the best that have so far been offered to the bee-keeping fraternity, combining more points of excellence or superiority than any other hive. The 4×5 plain sections and fence separators are a decided success. The combs are built solid to the wood all around, and their shape enables us to pack them solid in the shipping-cases, looking, when packed, like a solid block of wood. I have just hauled, on a common road wagon, over 35 miles of the roughest kind of road, 200 of these sections, and did not have a single one broken. They come off the hive nice and clean, saving the time and labor of scraping them.

Our honey-flow was very scant, and came in very slowly (I shall not average 10 lbs. to the colony), which caused quite a number of cells around the edges to be left empty. But for this defect my sections would be perfect. The 200 I brought here to our grocery I exposed for sale by the side of 80 of the $4 \frac{1}{4} \times 4 \frac{1}{4}$ sections. People are daily examining this honey, and the general exclamation is, "Well, that is the finest honey I ever saw. What is the price of it?" I answer, "Your choice of *this* grade (the $4 \frac{1}{4}$ sections) for 12½ cents per section, or your choice of *this* grade (the 4×5 section) for 15 cents per section." The answer almost invariably is, "Well, I will take"—two, four, or more, as the case may be, of the larger boxes, meaning the 4×5 sections. I had some nice white combs that I cut and fitted into the $4 \frac{1}{4}$ sections when putting on sections this season. I selected five of these, which were filled out with honey solid to the wood, making a very plump section, weighing from $\frac{1}{2}$ to 2½ ounces more than the 4×5 sections which have the empty cells next to the wood. I priced these at 15 cents. My customers are daily examining and "hefting" them, but take the 4×5 section of less weight at the same price. Only yesterday I showed a customer that these "square boxes" weighed the more; but after seeing them weighed he said, "I believe I prefer these larger boxes, for they look the best to me." After this no one can give me the $4 \frac{1}{4}$ section.

On page 510 you say that, in your revision of the A B C of Bee Culture, you are giving, among others, a description of the Danzenbaker hive. I hope you will give it *first* place. Its merits deserve this. On page 544 A. I. R. says that Vernon Burt had the handsomest sections he ever saw—never dreamed of any thing so nice. Were not these sections produced in the Danzy hive, Danzy super, sections, and fences? I don't mean to criticise friend A. I. R., for his age places him where we can not expect too much of him, but I am sure he will be only too glad to place credit where it properly belongs.

On page 535, E. W. Brown, the man whose brain has become so delirious with fever that, to arouse him to a state of consciousness, even his wife has to shout "Bees!" at him (I wonder if she has to accompany the shout with the gentle reminder of a sting) says he got 12½ cents for his sections, which "lie down like a brick on its edge," and only 10 cts. for

the Danzy section. I have tried sections laid down on their edges, and find this shape or position, if you please, so much out of harmony with the laws governing the economy and workings of the bees in the hive, which fact every bee-keeper knows, that I can not accept the unsupported statement of Mr. B. as a fact. I do not mean to say he would knowingly misrepresent facts, but we notice he calls them "my special fences," "my sections," etc., thus mixing the elements of self-interest with that delirious state of mind peculiar to all fever patients to such an extent that he is simply rendered incapable of acting as an impartial judge. Mr. Aiken, not being self-interested, and not having such a bad case of fever, is in a position to give an impartial decision.

I used a few starters of the deep-cell foundation this season, and find that the bees commenced work on and finished them, building the comb solid to the wood all around, sooner than they did the sections containing full sheets of the ordinary foundation. From this small experience I should think the deep cell far superior to the ordinary foundation, and would suggest to Mr. Brown that, as he uses only starters, he use this foundation in future. I think it will help him out.

On pages 537 and 546 you illustrate and describe the Draper hive, the "barn" that Dr. Miller seems to be trying to press to the front. It may seem preposterous for a small man like myself to attempt to criticise so large a man as Dr. M.; but as he is the one who "don't know," I will merely say that, when I do know a thing, I know it just as positively as any one else can know it; and I do know that a Langstroth frame $2 \frac{1}{8}$ inches deeper than the regular size will require to be wired. I do know that a wired frame is an expensive nuisance. I have over a thousand brood-frames so straight and smooth that they will interchange from one hive to another with perfect ease, and not one of them is wired. I do know that a large hive, if constructed on the right principles (the correct principles must be brought out in the size and style of the frame), is decidedly the best the whole year round; but the coming large hive is not the "barn." I would be willing to let the doctor "select any location and any number of barns" he may wish, and give me the same location, and an equal number of Danzy hives to run on my plan of tiering up, and guarantee better results than he can obtain with his barns. I will guarantee that, at the end of the trial, he will "know" to a certainty at least one thing.

My object in writing this is to speak a word in behalf of justice to the parties personally interested, and to benefit, if I can, the bee-keeping public. Practical experience of bee-keepers will sweep all opposition to the Danzy hive, super, fence separators, and plain 4×5 sections into oblivion. I will use the Danzy hive, super, 4×5 plain sections, etc., until something better is invented.

Bramwell, W. Va., Aug. 10.

[The sections referred to by A. I. R., or a part of them at least, came from the Danzenbaker hive, and were 4×5 . The other part

came from the regular Dovetailed hive. Both lots, as I saw them, were equally well filled. Indeed, it could hardly be otherwise ; for under the same conditions a $4\frac{1}{4}$ square would be as well filled as one 4×5 tall.

I may add that Vernon Burt is very much pleased with the Danzenbaker hive and the 4×5 section, and says he will adopt them in future unless he finds something better.

Yes, the Danzenbaker hive is mentioned in the new edition of our A B C of Bee Culture, along with the Dovetailed, Heddon, and Dabard ; but I did not and do not now think it would have been wise to give it first position, for it has not yet been tested sufficiently to give it that distinction. The hive that is given that honor is the regular eight-frame Langstroth ; and we are safe in giving it such prominence, because it has been tested in all localities by bee-keepers of every shade of opinion, with the greatest satisfaction. The Danzenbaker hive may be a better one ; but as publisher and manufacturer we can not afford to put it in the lead until it has pushed itself to a point where it may be recognized as a leader. If the hive is a good thing, and if it is certainly superior to the regular Langstroth, no fear need be entertained as to its future. If it is as good a hive as the regular eight-frame Langstroth, but no better, it will have hard work to push the latter "to the wall."

Pres. Whitcomb, at the Philadelphia convention, said that, in his opinion, any standard hive, having movable frames, was as

good as another. While this statement needs some modification, yet there is no denying the fact that there is a great deal of truth in it. It is W. L. Coggshall who puts locality first, the man second, and the hive last ; but a poor or inconvenient hive, even though it has movable frames, may entail upon the bee-keeper in a good locality a great deal of unnecessary labor, to say nothing of the fact that the honey produced would not be in as marketable a shape as that produced in a better hive.—ED.]

RAMBLE 175.

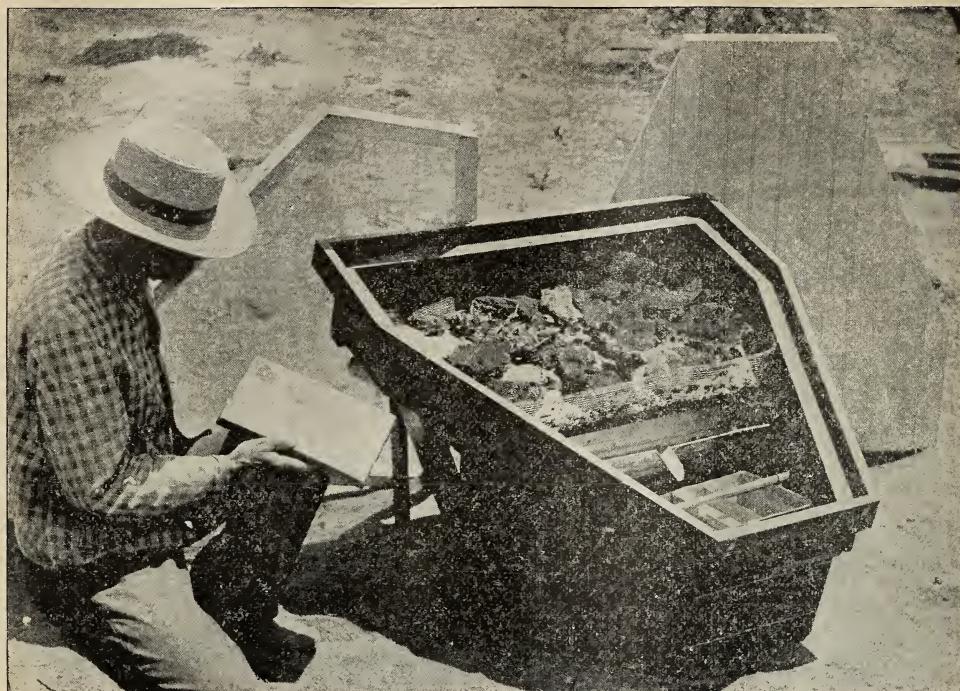
Practical Work; a Valuable Article.

BY RAMBLER.

From my observations when I come in contact with bee-keepers I find that they possess more or less ingenuity, and the many little inventions will attest this fact ; and that there have been no great and far-reaching inventions is because our industry is not great and far-reaching. The old adage, that "water will never rise higher than its source," has a capital example in the inventions for the bee-keeping industry. The source, bee-keeping, is practiced by but a small number of the great human family ; and an invention, however great for its class, is not for wide application. The bee-keeping improvements have been in the line of small things, and it is the multitude of these that have been the factor of progress.



RAMBLER'S UP-TO-DATE HONEY-HOUSE.



RAMBLER'S SIDE-DELIVERY SOLAR WAX-EXTRACTOR.

The spirit of this genius seemed to possess the Rambler early in the season, and chained him down to steady and delightful work for many weeks, and under it all were the hopes of a little honey-flow that would come as a recompense for the toil. As a result of the little genius that came to the surface, the things herewith illustrated are now in existence; and as some one of them may be of value to the fraternity I will describe.

Perhaps a few readers will remember that my apiary was illustrated and described in *GLEANINGS* for Sept. 1, 1898, and on page 650 was an illustration of my makeshift honey-house — rough poles and gunny sacks. I promised at the time to show something better some time, and now that "some time" has arrived, and here is a photo of the affair.

This is my up-to-date and a little ahead-of-date portable honey-house. It is ten feet in diameter; an octagon; the floor is made in triangular sections, with the points all to the center. It is made altogether in sections and panels, and is strongly put together with carriage-bolts. A few minutes' work with a wrench, and it is ready to be loaded upon a wagon.

Roofing felt is used for a cover, and it is well ventilated by windows upon the four sides. The front window has a revolving screen; the windows at the sides are put in in diamond shape, and have Porter honey-house escapes. At the upper points there is a small window in the door, but I dispense with a

screen door. I have seen many screen doors to honey-houses, and they are always more or less a nuisance. During the extracting season scores of bees are always dancing before the screen; and when it is opened, scores dodge into the honey-house and into the honey. I am aware that would not trouble some bee-keepers; but it troubles me, and I prefer to put my screen somewhere else, and have them in windows of generous size; then when the door is opened the bees are not there to bother.

By following an octagon style of architecture I get a very strong building, and it can never get lop-sided, as the most of the square buildings do. But I will leave the house to your consideration. If you blow against it, it will stand. The tank, and the man with a Daisy wheelbarrow, are the necessary adjuncts.

The next device that I have undertaken to have up to date and a little ahead of date is the sun wax extractor; and the one presented in the accompanying half-tone, like my honey-house, had a rude forerunner which was illustrated in *GLEANINGS* for Jan. 15, 1899. I believe I am the first to work out a side-delivery extractor; and my reason for working along this line is that honey and wax run off quicker, and there is not that damming-up at the lower end as there is in a long and narrow pan. I have no doubt that the majority of bee-men will prefer the old way, for the old-style extractors are cheaper, and easier in construction; but the limited trial that I have

given this leads me to think that the progressive bee-keeper should be satisfied with it.

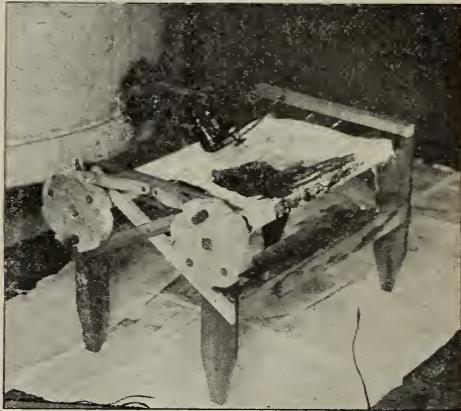
As the wax runs down from the melting-pan it is concentrated into the molding-pan at the smaller end. To operate this machine I place the sash and glass in position over the cappings, which nearly fill the melting-tray. I place over the sash the protecting cover, but draw it down so as to expose only about three inches of the upper portion of the cappings. By gradually pulling the cover down, the honey is nearly all driven out into the long round-bottomed tin tray below. A little hooked wire will be noticed in the end of this pan. This connects with a cork and an orifice by which the honey can be drawn off into a pan below, which is not shown. This first honey that is drawn off is not discolored, nor in any way injured by the sun's heat. Now take the shade off and set it aside; cork the orifice and let the remaining honey and wax go into the long pan. It will soon overflow into the caking-pan below. This pan will hold about 15 lbs. of wax. Wax taken out of the upper pan will have more or less dross on the bottom; but when run into this caking-pan the bottom of the cake is as clean as the top, as will be seen from the appearance of the cake in the hands of the operator.

While rendering old combs I nearly fill the first long pan with water. The wax soon overflows, and I find it necessary to allow it to run through a small supplementary tray which I hang to the upper portion of the caking-pan. There is a sort of black gummy substance that escapes the first pan, and is caught in this one, leaving the wax, even from old comb, clean from dross. The caking-pan is supported from the top, as will be seen, and it always retains its level when the body of the extractor is tilted at different levels. Although I have rendered out only about 30 lbs. of wax in this extractor, it works equal to my expectations. The honey and wax are run off into separate pans, which I think is a new feature in sun extractors. It is, perhaps, more applicable to a sunny climate like this than it would be in a cloudy and cool one like the far East.

When the sun wax-extractor was completed and out of the way, and my honey-house built as far as the exigencies of the season would allow, the honey-extractor placed within, and the tank without, and a hole bored through the floor in order to form a connection, I then began the study of honey-strainers. I have used cheese-cloth to a great extent; but a cheese-cloth strainer, while it is the cheapest and handiest thing that can be used, will clog; and when a paddle is used to free the bottom of the little particles, some of them are ground through into the honey, and then it soon clogs again, and has to be changed for a clean one.

I have also used the gravity strainer; but under rapid work at the extractor the little particles will not all rise to the top; and if there is a screen placed at the bottom it will clog, and then there is vexation again; and at the best there are a lot of fine particles that get into the tank, to be skimmed off afterward. In order to match my honey-house

and sun extractor, and have a strainer up to date and a little ahead of date, I considered the matter with intensity; and while I was under this intense strain an idea popped into my head all of a sudden. I grasped my saw and plane, and in two hours had a strainer that is away ahead of date; and the joke of it is, it is so simple that it is a wonder we had not thought of it before. Of course, I present you a photo of it, and you will note that it is made of the old stand-by, cheese-cloth, and the cloth in this one is half a yard wide and three yards long. This band of cloth is at-



RAMBLER'S IMPROVED HONEY-STRAINER.

tached to rollers. The rollers are about an inch in diameter, square or round as you please, and three wire nails with their heads cut off are driven in and slightly bent. Upon these hook the end of the band; now wind up, and place that roller in the little frame, and next to the extractor attach the other end to the other roller in like manner, and you are ready for business. The ratchets on the end of the rollers hold the cloth at any tension, and the little pieces projecting from the end-bars hold the sides of the cloth from sagging in that direction. When the strainer clogs, give the front roller a turn, at the same time loosening the rear roller, and a new surface of cloth is presented, and the honey goes merrily on. A shallow pan catches the honey, and conducts it to the tank. All of the debris will wind up on the roller, and this roller should be at least an inch higher than its mate. Some pieces of dirt will drop off from this roller, and a little pan of some sort should be placed beneath it as shown in the half-tone. As this strainer has not been crowded with work this season, I am not sure that three yards are too much or not enough. At any rate, it is cheap material, and any amount can be used. The rollers are hung in slots so they can be easily removed, and the cloth taken off and washed.

I have more nice new things that will please the fraternity; but I think this is about all you can stand at this time, and I shall have to ask you to wait until the next issue for the rest.



"WHY DID YOU WAIT, DEAR BROTHER?"
YELLOW BANDS.

On page 601 of Aug. 15th GLEANINGS, Dr. Miller says he is waiting for me to answer a question he asked me in the *American Bee Journal*, which was something about my waiting till this late day about calling attention to the fact that the bands (or, more properly speaking, the horny scale) on the three first segments of worker bees, brought forth by a queen imported from Italy, were not yellow as to color, properly speaking, but more nearly maroon. Well, I am sorry to keep the good doctor waiting so long; but, writing even as much as I do, I can not tell every thing at once, nor in one article. This reminds me of something ex-Governor St. John, of Kansas, once said when he was speaking on temperance and the prohibition of the liquor-traffic, in the town hall here in Borodino. In his address he alluded several times to the Democratic and Republican parties, and each time named the Democratic party first. After a little a man who was a Democrat, and somewhat under the influence of liquor, called out, "Say, Mister, why do you insist on putting the Democratic party first every time?" "Because I can not speak the name of both parties at once," was the prompt reply. And so, Dr. M., one of the reasons why I had not written on this color matter of late was because I could not write of that and how to secure a large yield of honey, with no desire on the part of the bees to swarm, at the same time, with the same words.

I wonder where the good doctor was in the early seventies. Or has he forgotten all about the discussion of this "yellow band" matter at that time? Has he forgotten, or did he ever hear any thing about how "no Chinese walls or snow-clad Alps" could keep the bees in Italy from mingling with other bees in the countries round about these so-called *pure* Italians? I have not time to go over musty volumes at this season of the year; but all of those discussions are impressed on my memory, myself taking "a hand" in them to a greater or less extent. It was fully proven at that time that the Italians are not a pure race, and yet the great mass of bee-keepers have gone on calling them "pure" just the same—myself calling attention to their *not* being pure occasionally, as such comment was called forth. And now the doctor wants to know why I have waited so long about saying any thing.

Again, at another time the dissatisfaction ran so high that A. I. Root came out in his A B C book, and in GLEANINGS, and told how these imported bees must be placed on the window, after first being filled with honey, in order that they could show their three yellow (?) bands, and thus be told from the

"two-banded" hybrids. This helped me out, and I then showed that the poorest specimen of a hybrid which showed any yellow or maroon coloring on any one of the horny scales to the abdomen would show it on *three*, if thus filled with honey, and placed on a window. And so it went on, I always standing out against a purity which could not be told without such a minute scrutiny, and a color that could not be told as yellow only as a full sac of honey and the golden sunshine from beyond the window must turn the maroon into gold. To be sure, I have not harped on these matters, for the very reason Editor Root gives on page 577 when he says, "But it seems to me we are in danger of splitting hairs on an unimportant point." And this brings me to my third reason for calling attention to this matter at "this late day," as the doctor puts it, or at this time, as I would put it if I wished to be correct. Of course, all know that the color of bees should have very little to do with their desirability, for it is the *queen* that gives the worker bees that will give the *very best results in honey*, that the practical bee-keeper is after, as the *desirable* bee. And we have been taught for the past quarter of a century that the Italian bee is *just the bee* to give the best results in honey, or is the most desirable.

But how was any purchaser to know whether the queen he received was Italian or not? By the markings of her worker progeny. And what were these markings? "Oh! any thing, almost, so long as they are good workers," was an idea which Bro. James Heddon brought out when he advertised and sold hybrids as the best working bee. And so the nice points about bands and colorings were forgotten for a time; therefore there was no need of writing on these points for some years. But for the past five years this matter of "markings" has again forged to the front, and the low rumblings of dissatisfaction first heard have almost reached the fury of a storm, and parties are being denounced for lying about the markings, purity, and color of their bees, and thus an *unimportant* matter has become an *important* one. Now, don't you see, doctor, why I tried to call you out at this time (on a matter of *importance*) instead of asking censorious or hypercritical questions?

It is just like this: Suppose I start out to get subscribers for GLEANINGS. The important part of GLEANINGS is what we find in the reading-matter it contains, not in the color of its covers. And I secure subscribers for the matter contained in the type as set up, telling the parties who give me their subscriptions that it does not matter any thing about the cover it has on, nor whether it has any cover at all, so long as the important part—the good, practical things the type tells us about—are there all right. Any one can see that no one will be any thing but satisfied with GLEANINGS, no matter what the color of the cover, so long as the high quality of the reading-matter is kept up. Hence, so far, the color of the cover is an "unimportant point." But suppose I tell the subscribers I secure that GLEANINGS is the best bee-paper published,

and that it can be told from the rest, or poorer bee-papers, by the *color* of its cover, and that they can always know they have GLEANINGS in its purity (?), that best paper in the world, by its greenish-yellow cover, and they believe me. Then the *cover* of GLEANINGS is changed from an unimportant point to an *important* one; and should the publishers send it out in a red or blue cover, I should be denounced as a liar and a fraud, no matter how good its contents, and no matter how much I shouted something about being "in danger of splitting hairs," etc. And this latter position is just where we are to-day regarding Italian bees, if the letters I am receiving are any criterion to go by; and rather than have our queen-breeders denounced as frauds and liars, I started out to have a little light shed on what is to-day an important matter, the *coloring* and *purity* of Italian bees.

[I do not know whether I ought to say any thing on this question or not. I partly agree with friend Doolittle, and I partly disagree; but as I believe the question of color of Italians, whether maroon or yellow, is unimportant, I ought to practice what I preach. But why unimportant? We sell anywhere from \$2000 to \$3000 worth of queens every season; and the way orders have poured in, it is evident we shall sell more this year than ever before. If there has been a complaint coming in to us with regard to this color matter, I do not remember to have seen it. Why friend Doolittle should have received them and we not, is a conundrum unless it is upon the score of "locality," as Dr. Mason would say.

I will say this much: I agree with friend Doolittle, that the only way to determine the

purity of Italians is by their markings; and I am rather of the opinion that he is right in saying that placing bees on a window, before the light, is an extreme and perhaps unreliable test for the determination of the purity of the bees in question.—ED.]



HOW THEY GROW PINEAPPLES ON THE WEST COAST OF FLORIDA.

BY J. M. LASSITER.

Mr. A. I. Root:—I take the liberty of sending you a small crate of pineapples. I wanted to send them so you could have them for a dinner July 4th, but there were none ripe at that time, so I hope they will suit you, even if they are a little late. I had one that weighed as much as these two, but it was of ugly shape, and such as would not ship well. I want to send you a photo of the pickers in the pinery picking the fruit for shipment. I did not try to send the largest, by any means. I wanted to send something that would taste nice and look fairly well. There are about one and a half acres in this patch. The pines that are raised in this vicinity are so large that it is necessary to support them by tying them to the shade-slats overhead. You will see the owner standing at the left in the photo. He is 5 ft. 9 inches tall, so you can see about



GROWING PINEAPPLES ON THE WEST COAST OF FLORIDA.

how tall they grow. You can tell also about the size of the fruit.

This photo shows the pickers at work. You will notice there are a lot of apples piled in the walk way. Plants such as were on top of yours sell for from 10 to 25 cts. each.

St. Petersburg, Fla.

[I had a special purpose in submitting this to the readers of GLEANINGS. It is on account of the pineapple shade. This shade is made of slats two or three inches wide. The openings are of the same width as the slats, so that, during the hottest weather in summer, one half of the plantation is in the shade, for we have just half of the sun's rays cut off. This shade, however, permits the rain to strike the plants just about as if there were no shade, or at least I suppose it does. But its principal office, if I am correct, is to insure protection during a frost or freeze. I visited several of these covered pineries, and many times the slatted roof is all the protection needed to save the plants and crop. When the weather is *very* severe, however, it is not a very difficult matter to cover the whole top with coarse bagging or cheap cotton cloth; then by having several fires inside you are proof against damage, even at such a time as the great freeze at the time of my visit several years ago. Similar structures are being used in Florida and California, for orange-trees. Of course, they have to be made higher to protect the trees. In California there is one single orange-grove covering several acres, all protected by a slatted roof, and it has been my impression for some years that during the severe heat of July and August many fruits here in the North would be greatly benefited by this partial shade. It is well known that the finest gooseberries are grown where partly shaded by trees; and such a slatted structure has been found to be very serviceable for them. During our present severe drought I have been studying a good deal in regard to a similar structure for growing strawberry-plants. I think such a shade would be just about what is wanted.—A. I. R.]

HONEY-DEW ; CONDITIONS FOR HONEY-FLOW.

Honey-dew is very plentiful in certain seasons in the mountains above us. Cowboys riding through the brush, salting cattle, will have their leggings, and the legs, manes, and tails of their horses, all in a smear, as though they had waded through syrup. At Grizzly Flats I stood between the rising sun and an oak-tree, and could see the dew falling from the tree like a mist, till the sun was fairly up, when it ceased. Leaves of manzanita were covered with the sugar, thicker than the leaf itself. These bushes were out in the open, so that the dew could not have fallen on them.

The proper conditions for basswood honey I know nothing about; but for all kinds of honey, *with us*, the nights must be cool, so there is dew, and the days hot, to produce sugar. If I go out among the bees early in the morning, and the grass is dry, I know there is no honey coming in. If my shoes are wet I

know, without looking, that the bees are then bringing in honey. Very early in the season, while the snow is still on the ground, the manzanita on the warm south slopes of the hills will come out in blossom, and the blossoms will be full of dew, but it is not sweet, nor are the blossoms fragrant. Now let the sun come out hot, and the flowers send out their honey-like smell for yards, while the dew in the cells tastes like honey itself. The sun's heat develops the sugar, and the dew dissolves it, and the honey-bee that gets around before the sun's rays evaporate it secures it.

I started with 50 stands in 1899; have about 125 now; have taken off about 2000 lbs. of extracted and 500 lbs. of comb honey. I expect to take from 500 to 1000 lbs. more from blue tarweed. I think the "Rambler" is right in stating that the supply on this coast will not exceed the local demand; but then there is the glucose-barrel always on tap, so honey is not apt to advance in price.

E. A. SCHAEFFLE.
Murphys, Cal., Aug. 9, 1899.

WHAT KILLED THE QUEENS?

I have lost a great many queens this season, and can not account for it. A colony will be working all right, and the queen laying in fine shape, when all of a sudden I find them queenless, and no queen-cells started. I have lost over 40 queens in an apiary of 200 stands since spring, and the majority have failed to raise a new queen. My hives are 4 feet apart one way by 8 the other. In some instances I have introduced young queens or cells, and in due time they would begin laying, when all at once they would be gone. Can you give me any information on the matter, from what I have written you?

The honey crop is very short here this season, and I have had a hard time in getting my bees to go above, even when I had queens. This yard is one I brought up from New Mexico last spring; and when the honey-flow began I had the bees all in good condition for work.

J. E. GAUGER.

La Junta, Col., Aug. 9.

[If you were losing a very large percentage of the virgins, I should say that some sort of bee-eating bird like the king-bird or bee-martin was responsible for the mischief; but if your *laying* queens are disappearing at such a rapid rate, it is something out of the ordinary, and I am sorry that I am not bee-keeper enough to give you an answer, and I therefore call upon our readers.—ED.]

GETTING BASSWOODS TO GERMINATE ; FRUIT-GROWING IN THE SAN JACINTO VALLEY, CALIFORNIA.

Mr. Root :—You ask some nurseryman to tell about getting tough-shell seed to start. I am not a nurseryman, but have had some experience in past years while living in Missouri, growing osage-orange plants. There the apples mature, and we gather the seed, and it will not sprout by nature. If it did it would be a great nuisance. To sprout the seed I put it into a box. I then poured as much hot water on the seed as would make it like a bran

mash. Then I would cover it with an old quilt, and repeat every day until the seed sprouted. It took about ten days, stirring or mixing the seed thoroughly each day as I wet it, so as to have all the seed sprout as near the same time as possible. Some of the seeds would have sprouts nearly an inch long before all would crack open.

In planting I would take some seed from the box, letting it dry a little so as not to stick. Then I made paper funnels long enough so a man would not have to stoop so much in distributing the seed nicely in the rows, so as not to injure the sprouts. When ready to plant, it makes lively work where one plants several acres. I write this that you may have one of the many ways of getting tough-shell seed to grow.

It now looks as if we should lose nearly all if not all of our bees by reason of the drouth. Irrigation does not seem to supply the nectar that winter rains do. Still, we might be worse off, as we shall receive nearly or quite \$100,000 for our dried fruit in the valley this year; so you see the push of Young America has been busy in the San Jacinto Valley since you visited us.

H. J. MORSE.

Hemet, Cal., Aug. 12.

BLACKS VS. ITALIANS.

I had a more favorable opportunity last season to compare the merits of the blacks and Italians and their numerous crosses than I had before in forty years' experience in bee culture. The winter previous was very mild, and all the bees came out in March in good condition; and as fast as they began to crowd in the hives I gave them more room by adding empty frames, and kept it up for eight months. The bees were in ten-frame hives; and when the hive was full of bees I would lift the two outside frames on each side into an empty super, placing them directly over the four middle frames, then filling the empty space above and below with empty frames. Then as fast as they increased in bees I moved the old combs apart and inserted the empty ones, first moving those in the lower hive, then in the super, until the space was filled; then I would add another super of ten frames as needed. None of the black bees made over one superful, and all of the cross-breeds made two superfuls. None of the Italians made less than three superfuls, and several of them four superfuls. Any one blindfolded could tell the grade of the bees by simply lifting the hives.

The black queens occupied but one set of ten frames of the improved Langstroth size, while the cross-breeds occupied part of two hives, and the Italians all of two. There were leather-colored and straw-colored Italian bees, and the straw colored ones proved to be the better.

HENRY BIDWELL.

Valley Center, Kan., July 30.

CONDITIONS UNDER WHICH CLOVER DOES NOT YIELD.

I see in your Aug. 15th number one of the old-time bee-keepers wonders why, when white clover bloomed so finely, we did not get any honey this season. If any of you folks ever

see a honey-flow when clover is nearly all killed, and spring opens wet, and the new plant comes on and blooms freely on account of a wet spring bringing it to that state, you are ahead of me. If my experience is of any value it is the second season when clover yields honey, and not the *first*. I said, as E. T. Flanagan can tell you, we should get little or no clover honey, as far ahead as last March; and when clover came into bloom I still stuck to it, though many laughed at me, and we did not get it either; and, by the way, this is the only time I ever saw the fields full of bloom; and no honey, as you often hear of, is obtained under these conditions. Study your plants as well as bees, or you can not be successful.

D. D. HAMMOND.

Malone, Ia., Aug. 17, 1899.

A SIMPLE ENTRANCE-CLOSER.



I send you a model of an entrance-closer. I have used them for several years, but have not seen them advertised in any catalog. The one I sent is a little short. On moving a beehive they can be nailed over the entrance, and the bees will have plenty of air. They are good in hot weather.

JEROME POOLE.

Rockport, Mass.

DRAPER BARNs EIGHT FRAMES WIDE.

I see that GLEANINGS for July 15 describes the Draper barns, and also gives an illustration of one. I am sure I don't want such a hive, neither do I want the regular ten-frame hive; but it seems to me that an eight-frame hive, with frames the depth of those in the Draper barns, would be a very desirable hive, both for breeding and for wintering. Such a hive would have about the same comb surface as a regular ten-frame hive, and it would suit me a great deal better than to use the two extra combs in order to get it. I use mostly the eight-frame hive; and the only drawback I find with them is that they are liable to have a scant amount of stores for winter. The same hive, with frames and hive-body 2 1/8 inches deeper, would overcome this objection.

You say nothing about eight-frame hives with Draper frames; but it seems to me that, if you get a call for those Draper barns, you will also get a call for eight-frame Draper hives. I should like to hear what others have to say on this subject.

We have not had a good willow-herb season here since the summer of 1896, when I raised 3600 pounds of extracted and 4600 of comb honey from 55 colonies, spring count. Willow-herb promised fairly this year, but it has failed. The blossoms seem to be blasted. Basswood also failed after blooming fully. We are thankful, however, that we got some clover honey, and there is a chance that we shall get a fall run. If not, the feeding of bees will be in order.

R. S. CHAPIN.

Marion, Mich., Aug. 8.



RIVAL BEE-PAPER EDITORS.

IF there ever was a fraternity of feeling among rival editors and publishers, it is among those connected with bee-journals. Once or twice Bro. York and I have occupied the same sleeper *en route* to conventions, and we were together much of the time afterward. This was particularly so in going to and from the Lincoln meeting. Well, this time Mr. W. Z. Hutchinson, of the *Review*, and I arranged to meet in Cleveland, there to take a sleeper on to Philadelphia. We left Cleveland on the night train via the Pennsylvania route; and, didn't we talk bees, things, and men! The subject of amateur photography we just reveled in. We not only went to the convention together, but we came back together; and on arriving at Cleveland Mr. Hutchinson took the train with me for Medina, where he spent with us a little over a day in looking over the bees, visiting Vernon Burt, etc. All this may seem sentimental to some; but it means much to bee keepers as a whole. If the editors of the leading bee-journals were clashing and pulling against each other, what would the result be?

MARKETS BARE OF HONEY, AND WHY.

I HAVE already spoken of the markets generally being bare of honey, and that the cause was due to the fact that buyers were not offering enough. Although I have spoken of this in this issue, I believe the matter needs *special emphasis again*.

Bee-keepers should not be in haste to sell their honey just yet. Honey has advanced very materially in California and the West generally. Extracted that sold in California for 3½ cents is now selling for 7. According to the same ratio, comb honey that sold two years ago at 10 cents in our markets should now bring 20; and yet 13 to 15 is about the top notch of the eastern market. If the buyer wants honey it appears to me he will have to offer more than these figures. There is evidently much honey in Colorado, but it will never find its way east until our markets advance more than they have done.

It should be understood that commission quotations usually stand higher than cash offers, for the reason that from the former must be deducted freight and 10 per cent commission; but in whichever way the offer is made, the honey-dealers should understand that they will have to advance some before they will have much honey to offer.

THE PHILADELPHIA CONVENTION.

THE Philadelphia convention, while not the largest in point of attendance, was a success in every way. There were something like a hundred present at some of the sessions. Representatives were present from Illinois, Wisconsin, Michigan, Ohio, Massachusetts, New York, Connecticut, Pennsylvania, New

Jersey, Virginia, Florida, and a number of other Southern and Western States. The discussions were spirited and good, and the enthusiasm and the general fun-making were of the best.

A special feature of this meeting was the very excellent stereopticon lecture by Mr. W. E. Flower, a manufacturer of edged tools in Philadelphia. During this talk he "brought down the house" a number of times by witty sayings, good jokes, and funny pictures. Another interesting feature was an able and interesting address by Prof. H. W. Wiley, U. S. Chemist of the Department of Agriculture. He gave interesting and valuable data in regard to honey as a food, going clear back to early times. Bee-keeping as an art was only about as old as the Christian era, though there were pictures of bees 4000 years old. Of honey he said it was the most wholesome of all sweets, requiring the least effort to digest of any of the saccharine substances. This statement, coming as it did from the highest authority in chemistry and food products in the United States, means much to the bee-keepers of the country.

SELLING FOR CASH OR ON COMMISSION;
HOW COMMISSION HOUSES MAY GET INTO
THE GOOD GRACES OF BEE KEEPERs.

The question of honey on commission and outright sale was thoroughly discussed. E. T. Abbott, G. W. York, and W. A. Selser, argued against selling honey on commission, and in favor of selling it outright. There are so many temptations to deception and fraud in the commission business that Mr. Selser was decidedly opposed to that way of doing business. Mr. Abbott believed he could invest his money to much better advantage than to put it in the hands of commission men and let them make such returns on it as they see fit. He paid cash for every thing he bought, and did not see any reason why the commission man should not do as much. On the other hand, it was argued that very often an honest commission house could secure a higher price on a lot of honey sold on commission than where it is bought on outright sales. If the market advances, then the bee-keeper gets the benefit of the advance. If, on the other hand, it declines, he suffers in proportion to the drop in price. The general feeling in the convention was against selling on commission, and the firms who bought outright were very much in favor.

Those commission houses that had been offering the prices that prevailed a year ago were severely scored, and it was recommended that they be let severely alone — at least until they could offer better prices. It was stated that large lots of honey were being held back, and would be held until there was an advance in prices somewhere near commensurate with the advance in other things. It was evident from the discussion that the commission house or honey-firm that would curry favor with the bee-keepers would do well to make cash offers. One firm that buys for cash was very highly spoken of, and its customers, as far as they were present, expressed themselves

as greatly pleased with the treatment that they had received.

HONEY A LUXURY.

Another spirited discussion arose over the question whether honey was a luxury or not. Mr. Selser thought it was. Others insisted just as strenuously that it was not. Then some one asked for the definition of the word *luxury*. Mr. Hutchinson said it was what he wanted but could get along without, and the Standard Dictionary bears out this definition. The general consensus of opinion seemed to be that extracted honey is almost a necessity. The human system craves sweets—needs them and must have them; and as all the best authorities agree that honey is the most easily assimilated of any of the sugars, therefore extracted honey is not a luxury. It was admitted, however, that comb honey might be and probably is, for it is bought for its beauty, and because it seems like the honey of the olden days.

BEE-KEEPING IN CUBA, AND ITS ULTIMATE EFFECTS ON AMERICAN MARKETS.

This occupied largely the attention of one session. Interesting papers were read by Fred L. Craycraft, a government official in Cuba, and from Mr. W. W. Somerford. The former seemed to feel that Cuban honey would never be a serious competitor to the American product, and that bee-keepers on this side need have no apprehensions. That there would be a rapid growth of bee-keeping in the near future there could be no question. Mr. Selser, who, as our readers are aware, buys large quantities of honey every season, paying cash for it, dissented most decidedly from the opinion that Cuban honey would not compete in our market. It was preferred by manufacturers and bakers to low grades of American southern honey, and the Cuban article surely would be a most serious competitor to our own dark and off grades. This opinion seemed to be shared by others. The duty now imposed on Cuban honey is not enough to prevent its importation into the United States. It was shown that some bakers take anywhere from ten to forty carloads of honey every year because there is no other sweet that will take its place—not even glucose as cheap as it is. Other forms of sweet require a certain amount of glycerine; but honey requires no such adulterant, if we may so use the word. Dr. Mason stated, on the floor of the convention, that honey-jumbles that he had bought from Bro. Root twelve years ago were still as moist and nice as when he first got them. Some one asked him why he kept them so long. "Why, to see how long they would keep," he replied.

Incidentally, between sessions I learned of Mr. York that Mrs. Rohrer, the celebrated writer on home cooking, when asked what she thought of using honey in preference to other sweets for cooking, ridiculed the idea by saying, "Why, what do you want to do that for?" And yet over against her opinion there are large baking concerns, some of which use as much as 30 carloads of extracted honey per annum in the manufacture of certain

classes of honey-jumbles, honey-cakes, and other cakes of a like nature which it is desirable to keep for some considerable length of time without molding or becoming so dry as to be like a dry crust of bread.

Mr. Poppleton also spoke of the fact that not all Cuban honey is off in color or flavor. Bellflower, for example, in the opinion of many experts, would equal the best white honey of the North, and that there was no question but large quantities would be sold somewhere.

AMALGAMATION IN A FAIR WAY OF BEING CONSUMMATED AT LAST.

Secretary Mason has been having considerable correspondence with General Manager Newman, of the National Bee-keepers' Union. This correspondence was begun after it was learned that Mr. Newman would not serve again as Manager, owing to ill health and a pressure of other duties. To make a long story short, Secretary Mason submitted a form of constitution which was approved by Mr. Newman and the members of the convention present. This new constitution provides for the amalgamation of the two Unions, or, more strictly speaking, what is now the Union and the Association. The new organization will be known as the "National Bee-keepers' Association." It will be seen, by comparing the names of the two old organizations, that the name *National* is taken from the old Union, and the name *Association* from the present United States Bee-keepers' Association. The vote that was taken at Philadelphia simply indorses the proposed changes; and when the matter is submitted to the members of both organizations, there is every reason to believe that amalgamation will be accomplished in fact. There is now good feeling between the two organizations, and the members of the one are largely members of the other, and there is no reason why the two should not be married, and the wedding will no doubt take place in the near future.

GENERAL MANAGER SECOR'S REPORT.

Mr. Secor gave a history of the work that has been done by the Association during the past year, telling how he and Secretary Mason had arbitrated difficulties arising between commission men and bee-keepers, and how prosecutions against adulterators in Chicago had been carried on. A full history of the matter was given in our issue for Sept. 1, and so I will not go over the ground here; and, moreover, his full report will be submitted to each member of the Association, later, when the next election of officers occurs.

There were many other things of value brought before the Philadelphia convention, but I have not space in this issue to set them before our readers. The remaining topics that occupied the time of the convention will be brought up in our next and subsequent issues. Indeed, I gathered so much of value that it is doubtful whether I can cram it into one or two issues, even if I try, so I propose to use it as a sort of seasoning, sprinkling it in here and there as we go along.



Blessed are they which do hunger and thirst after righteousness, for they shall be filled —MATT. 5:6.

I have used the above text for my talks a good many times; and, in fact, there are few Bible texts that I love as I do this one. No matter how I feel, no matter what troubles or temptations assail me, when this question comes up before me I can always say, "Yes, thank God I *do* hunger and thirst after righteousness." Of course, when I am strongly tempted to be selfish I sometimes, for the time being, forget this; but that beautiful passage is always an effective rebuke. Some gentle spirit seems to say in times of trial, "Well, old friend, do you even *now* hunger and thirst after righteousness?" and by the time the gentle voice has ceased to speak I am back again in the straight and narrow path. A few days ago my very dear friend Bro. Reed, whom I have mentioned so often that I do not think I need to introduce him at this time, sent me a postal card, asking me to go to Newark, Licking Co., O., and talk to his people, for he was then holding a series of meetings there. It was just then I had planned to go to Boston, and I wrote him I regretted I could not go at the time he mentioned. But I did not feel quite easy about neglecting his invitation. A little later, when other things seemed to make it very inconvenient for me to leave home, I wrote him that I would come after all; and then some way I felt better satisfied.

In order to make my appointment I took a trip on the cars, planning to take my wheel and ride back at my leisure. I reached the church in the middle of the afternoon, and found Bro. Reed within a minute after I arrived. I rather expected I should find him near the Congregational church; for when he is holding a series of meetings he is much of the time in or around God's holy temple. He soon told me that he and the young pastor had arranged for an afternoon prayer-meeting in the outskirts of the city, and asked me if I would like to attend. Yes, I always like to attend a prayer-meeting, especially where Bro. Reed presides. As this meeting was in the month of August, and in the middle of the afternoon, not very many *men* were present; but there was a lot of women, mostly mothers of families. Bro. Reed was a comparative stranger to every one in the audience. In fact, I am sure he could call hardly any of them by name; but yet before this meeting had closed he had talked so kindly and familiarly with them that nearly every one gave some sort of brief testimony, telling of *her* hungering and thirsting after righteousness through many busy cares. Afterward a large number of them took part in brief prayers. One would almost think it was an Endeavor meeting among the old folks. Now, any person who is in the habit of leading prayer-

meetings will recognize that it is a pretty difficult matter for a stranger in a strange town or city to have such a prayer-meeting as this. As the meeting closed, I am sure that every one present felt an uplift of soul, and that they were nearer to the heart of the great Father than when the meeting commenced.

I wonder if I may be permitted to diverge a little here to mention a single occurrence. Just before closing, a lady arose and commenced to sing a solo. Something in her appearance struck me as a little strange, but I decided she was probably accustomed to assist in religious meetings, and in this way manifest her sympathy with the work. At the close of each stanza her voice sank low, and with wonderful skill she executed a difficult passage in music that thrilled me through and through. There were, perhaps, three or four stanzas. Before she closed I was mentally thanking God that at least *one* person possessed such a voice, and had skill to use it with such wonderful fervor and pathos in praising God. When she commenced the hymn I was a little surprised because Bro. Reed, the pastor of the church, and perhaps one or two others, joined in with her with the exception of the chorus. I had decided to thank her, and to tell her she might thank God for her wonderful gift. But I thought I would first speak to Bro. Reed about it. He smilingly said he was glad I had first mentioned the matter to him. Now, reader, what do you think? My decision that she possessed a wonderful voice was correct. It was also true that she had spent years in the study of music, and was a most accomplished singer; but it was also true that her mind was a little out of balance. No one could object to her beautiful hymns; but most people did object to her solos, that came not only *in* time but sometimes *out* of time. She was all right, like lots of other good people, when she could have her own way; but once when she interrupted the minister in his *sermon* to sing a solo it did not suit very well, and therefore the good pastors are always worried when she puts in an appearance, as she is almost sure to do when any thing like a revival comes along. The incident caused me to reflect again how wonderful are the phases of humanity; and, also, how true it is that just a *little* jar may throw a gifted and cultivated mind out of balance!

During the evening I gave my talk on business and religion to a rather larger audience than I ever spoke to before; and, what is still more remarkable, at least three-fourths of the large church was filled with *men* — probably men in business. Sometimes in speaking I have planned to use a good many Bible texts; but I am sorry to tell you that, a good many times, these texts do not come just when I want them; for I have seen the time more than once when I could not (on the spur of the moment) repeat the simple text at the head of this talk to-day. This time I prayed over the matter. Again and again did I beseech the dear Savior to help me to overcome this fashion of having my favorite texts elude my grasp just when I wanted them

most. Do you suggest notes? Well, notes are some help; but when I am obliged to look for them they break the thread of my discourse, and oftentimes get me off from the track. It is much better for *me* to make such thorough preparation that no notes are needed. On this occasion I prayed with more than usual earnestness over the matter, and the prayer was answered. Every text I had planned to use was right at my tongue's end when I wanted it, and I could speak it with clearness, force, and emphasis.

Before retiring for the night, Bro. Reed and I knelt together as we often do. In his prayer he thanked God for the privilege of passing a few hours with his old friend and fellow-worker; and as we arose to our feet, I told Bro. Reed something that happened more than twenty years ago. I believe that I have hungered and thirsted after righteousness more or less all my life; but the thought never occurred to me to seek *first* the kingdom of God and his righteousness until, through Bro. Reed, I caught a glimpse of God's kingdom. This glimpse came about a little strangely too. Before I met him I had been for many years rather opposed to revival meetings; but after I became sufficiently acquainted with the young pastor to know, as everybody else does, how thoroughly he was given, body and soul, to God's righteousness, I looked at him with more charity. I thought he was mistaken, but still I admired his unselfish zeal. It seems to me no one can avoid doing so when he once comes to know him and see him. Well, one Sunday morning as we stood up, I think it was while they were singing before the sermon commenced, all of a sudden something suggested that I should give up my old life and commence a new one by laboring by Bro. Reed's side. God knows I had no thought of being his equal in any way in the work of saving souls; but the idea presented itself that, if I could stand near him, perhaps a little behind him, and hold up his hands, and perhaps bring him things he might happen to need, or give him a lift when he greatly needed a helper — why, it seemed to me that *such* a work would be nearer perfect happiness than any thing else I could think of in this wide world. The thought of it thrilled me again and again.

Now I know, dear friends, that I should strive to serve *Christ Jesus* and him only; but I do not feel after all as though my first visions of Christ's work were so very much out of the way, even if they did connect themselves with the young pastor of our church with all his devotion and enthusiasm. Well, years have gone by, and many changes have been wrought. I do not think a year has passed, however, wherein Bro. Reed and I have not labored together more or less; and after almost 25 years, as we knelt side by side, he in his prayer thanked God, while I myself was also mentally thanking God, that my early vision of happiness and joy had been at least to some extent realized. A great many times during these years my dear brother has helped me by counsel and wise suggestions. He has helped me when nobody else *could* help me in a like

manner; and it rejoices my heart to look back and see that I too have been many times permitted to help him, when perhaps nobody else could help or would help. God has helped us to know each other and to help each other. Why should not those who are hungering and thirsting after righteousness be helpful one to another?

The next morning I was off on my wheel for a spin through the beautiful hills and valleys of Central Ohio. I noticed the wheel-book said Licking County is one of the most beautiful, agriculturally, in the State. I fully realized it that morning. I was happy, because I had responded, as best I knew how, to God's call. In a little time I was looking over the pleasant city of Mt. Vernon. I visited the park where they have been having many religious meetings lately, and saw the flowing wells where pure soft water pours out of the ground without pump or windmill or any thing of the sort. What a beautiful gift from God are these flowing wells! It makes me think of my text — hungering and thirsting after righteousness. And is it not true that every wayside well or spring *helps* toward righteousness? Oh how I do love to see thirsty people and domestic animals slake their thirst with pure wholesome water!

Toward the close of the day I made a stop at Apple Creek, Wayne Co., Ohio, where I was told there were some flowing wells of great volume. Near one of these wells we have a subscriber — Benjamin Zürcher. When I first began to inquire in his neighborhood for a man by that name I was somewhat disappointed to hear people say they knew no such man; but an old German said he could tell me where Benjamin Zittaker lived, if that was the man I wanted. When I found my friend he laughingly told me that the people all around there would call him Zittaker in spite of all he could do, but that his name was really Zürcher. Well, I was really glad I called on Benjamin. Shall I tell you why? Because he is an enthusiast on fruit culture. He has planted out on the hills of Ashland Co. 3000 pear-trees, 3000 plum-trees, and even so many other kinds of trees whose names I can not remember now. He showed me some of the "gold" plums from Luther Burbank. They are beautiful plums to look at, and when ripe are said to be delicious to eat, while at the same time they are as hardy as the wild plums scattered all over Ohio.

I could not stop with friend Zürcher very long, however, because I wished to visit the largest well in Wayne Co., and perhaps one of the largest flowing wells in Ohio. As it was a very dry and dusty time, I found these wells doing excellent service in filling up water-tanks of all descriptions for the farmers. The one near schoolhouse No. 7, East Union Township, fills a three-inch pipe, and rises up about three feet above the ground. They found this vein at only 89 feet depth. When I got there a farmer was swearing because the standpipe was not six inches higher so it would pour the water directly into his wagon-tank. I told him that, instead of using bad words, such a flow of beautiful pure water should lead every

one to thank God for the precious gift every time he came in sight of it.

In order to shorten the distance to the other and larger well I crossed two farms, riding down one lane, opening the gates, of course, and then getting out by another lane on another road. While away back in the lots I met a very pretty young girl driving her father's lumber-wagon. She naturally felt somewhat embarrassed at being obliged to talk to a strange man away off in the field. It was growing dark, and I was very anxious to be directed by the shortest cut to the celebrated well. Although she flushed a little with embarrassment, she finally gave me very full directions in a very pretty and ladylike way. Now, I have been telling you of a very simple, commonplace event; but as I hurried past on my wheel so I could follow her directions before it was too dark to see, I fell to meditating, and my thoughts ran in this way: Is there a man in our whole wide land who would not give the last drop of his life's blood to protect our young women? Just now there is great activity everywhere. Farmers, on account of their lack of help, are having not only their young boys but young girls drive teams and do other work that they can do. There has been considerable sport at the expense of the old-time knight-errant because he was expected to give his life, if need be, to protect womankind. We need some of the spirit of chivalry now; and the poor man's wife or daughter should be held as sacred and as much entitled to protection as the finest lady that the land affords. Not only should womankind be protected from men who have their senses, but the drunken man should be taught that whisky in no way excuses him for brutality of any sort.

I reached the celebrated Amstutz artesian well just as it was getting to be a little dark. The men-folks were doing the chores, and so the farmer's daughters very kindly volunteered to show the stranger around in the twilight. The water was turned off from the great well, because I afterward learned that about every seven years, if left running, it cuts or corrodes the pipe, and thus ruins the well, and then a new one has to be drilled. Galvanized iron is not only no better, but it actually cuts out quicker than black iron pipe, so Mr. Amstutz told me. One of the girls went inside of the building and opened the valve in the four-inch pipe while I stood outside. Such a volume of water came pouring out into the race-way that I almost became alarmed. Why, it seemed as if there was enough to run a "saw-mill," in very truth. Mr. A. has made an overshot water-wheel inside of the building. The wheel is $12\frac{1}{2}$ feet in diameter, and the buckets take all the water so as to get pretty much all the power. The actual product is six barrels of water a minute. Imagine a stream that would fill up a barrel six times in one minute, and you have it. When first drilled, the water came out with such force as to throw out stones two or three inches in diameter. This water-wheel grinds feed for the stock on Mr. A.'s farm, turns the churn, washing-machine, and works a series of

brushes for ventilating, and keeping the flies away from the dinner-table. The well is only 99 feet deep. Mr. A. has drilled three different wells in all. The well by the schoolhouse I first visited I should say was three-fourths of a mile distant. Many attempts have been made by neighboring farmers to get similar wells; but although Mr. A. strikes the same vein of water every time in his own locality, the other wells in the neighborhood are mostly failures. The stream has been running about twenty years. The location is six miles southwest of the town of Orrville, Wayne Co., O. When the well was first drilled the water rose to a height of 24 feet; but now it rises only about 14 feet. The valve is kept closed unless power is wanted, on account of the force of the stream cutting out the iron pipes, as I have explained.

After thanking my good friends, and assuring them that such a sight was worth going many miles to see, I started to go back to the little town of Apple Creek; but when my friends informed me that Apple Creek was three miles away, and Orrville, which was on my way home, was only six miles distant, I decided to take a moonlight ride to Orrville. The moon was not yet up; but rather than sit down and await its slow motion I decided to get along as best I could in the dark. With good roads this would have been a very easy matter; but with the deep soft dust consequent on our long severe drouth I was obliged to feel my way, as it were, with the rubber tire; but I soon got so I could ride very well; and when the great full moon illuminated my pathway I found the ride after dark much more agreeable than during the daytime. There is something exceedingly invigorating about the damp night air, especially when on the wheel; and when I ride through a valley where there is quite a little fog, I find the moisture-laden air is simply delicious.

In order to get home to see to some important business I started off next morning at four o'clock. Another reason for my early start was that the morning air is much pleasanter during severe hot weather, and the dust is not nearly as bad. Another thing, through the day one is not only annoyed by teams going back and forth, but these same teams stir up the dust. The wheelrider who gets up at daylight has the road all to himself, and is comparatively free from dust, even during a very dusty time.

Between Orrville and Rittman I found more flowing wells with their watering-troughs out in the fields; but the water here is so near the surface that the farmer finds it but little expense to find a flowing well anywhere he wishes. Many of them are right by the roadside; and the noise of the falling waters makes one think of babbling brooks. "Blessed are they which do hunger and thirst after righteousness;" and, somehow or other, pure, cool, sparkling water has always associated itself in my mind with righteousness; and who can tell how much iniquity might be put away or washed away, if you choose, by hav-

ing plenty of springs and artesian wells and watering-places along the roadside to slake the thirst of multitudes of thirsty people? Dear reader, have you done all *you* can do in providing the world with plenty of good, pure, cool "living water"?



THE OHIO STATE FAIR.

I am beginning to regard it as a duty to make at least a brief visit to our Ohio State Fair, especially as, in my special correspondence, so many questions are being asked in regard to various kinds of farm machinery. Almost every day somebody is asking me about tools for doing all kinds of work on the farm; and by visiting the fair, and looking over the implements, I am better prepared to answer intelligently all such questions.

Our recent Ohio State Fair had the largest and finest exhibit of farm machinery I ever saw before in my life. Another pleasant thing about these exhibits is that each machine was, as a rule, shown and exhibited by its inventor, and one full of enthusiasm over the capabilities of the child of his own brain. It really was a treat to me to see these men make their own machines show off their capabilities and excellencies.

For the first time in my life I saw what I should call a successful corn-husker. The ears were neatly trimmed of every bit of husk and silk, and piled up in a heap, while the stalks and husks were shredded up just right for fodder, and piled in another heap.

There were windmills and pumps, without number. The little spray-pump that has met with so much favor was exhibited in a multitude of forms for every possible purpose; fences, gates, and building material of every description—material for making roads, and machines for crushing stone. Why, I really felt proud of our State of Ohio; yes, and I felt proud of humanity when I looked over that busy scene with its forest of machinery, and its hum and clatter and enterprise. I felt glad, also, to note that there did not seem to be any intoxicating liquors sold on the grounds nor outside around the grounds. The exhibit of fruits, vegetables, and last, but not least, of nice honey, was also creditable to our State. But there did not seem to be the wideawake enthusiasm anywhere on the grounds such as we saw among the machinery men and the manufacturers.

As there was to be a display of fireworks in the evening, and a mock battle concluding with a bombardment, Huber and I decided to stay until next day. As we were pretty well tired out with running about so much we decided to take a seat in the grand stand, even if it did cost 25 cts. each, so we could rest during the fireworks. A new grand stand has just been erected, which somebody told me

would seat comfortably ten thousand people. It did not seem to me possible that there were ten thousand people willing to pay 25 cts. each for a seat; but before the ticket-offices were open (for there were several of them) there was a perfect jam about the windows. Not only men, but women and children seemed almost frantic to get up to the office and get a ticket. After they secured their tickets the entrances were blocked even worse, and the crowd surged against the turn-stiles with such vehemence that three policemen were called near our own entrance to drive the crowd back. For the first time in my life a policeman brandished a club over my head, and threatened to strike me if I did not stand back. I looked up smilingly, and said, "How can a little man like me stand back with all this surging crowd of great burly men behind him?" He looked back over the sea of faces, and evidently decided I had got it about right. But the people away back were not afraid of the club, which could not reach them, and so they kept on pushing and crowding. Well, the ten thousand seats were all filled, and a thousand or more people were driven by the police out of the grand stand, and down on the grass by the race-track. They had all paid their 25 cts. each for a seat; but they simply got a place inside of the inclosure, right on the ground, not a whit better than the crowd occupied on the right and on the left, that had not paid a cent. Furthermore, said crowd on the right and left, before the fireworks began, tore away the fence, and surged around in front of those who *had* paid, so they were really worse off than those who had not paid any thing. Now, there is something very unfair about this. I do not exactly know what the remedy is, either. A sufficient number of policemen might, perhaps, have made this mob of thousands get back where they belonged; but in order to do it there would have been a row, and the entertainment would, perhaps, have been broken up. The whole trouble seems to be, that just at the present time excursions, shows, and exhibitions of almost every kind seem to be on a boom. Everybody has work, therefore everybody has money; and the general tendency seems to be to use this money to rush in mad crowds into every thing, and wherever people are invited to go. Instead of saving up this money for a probable "rainy day," Young America—yes, and *Old* America too—seems to be determined to get rid of it as fast as possible.

"Well, Bro. Root, this is a very good sermon of yours; but how does it come that *you* too were in the crowd? Yes, and you took Huber along besides." Yes, I was in the crowd; but I do not believe I shall go next time. I do not know how many thousands of dollars' worth were burned up in those fireworks; but I do know that the people paid some three or four thousand dollars to get into that grand stand to see the fireworks. Now, burning up money in fireworks is not by any means the worst thing that can be done with it; but yet while the people of Porto Rico are starving, and we are admonished again and

again that the amount being sent in is by no means sufficient, is it just the thing to use our quarters, to say nothing of dimes and nickels, for fireworks? Then in regard to this matter of swindling a thousand or more people, for it certainly *is* a swindle to take 25 cts. for an elevated seat where one can get a good view, and give nothing of the kind. A great many demurred, after having paid their quarters, against going down the stairs on the ground; but the police absolutely drove them off the platform. The right way would have been to pay them their money back when the seats were all occupied; or, better still, refuse to sell tickets to more than the number of people who could be crowded on to the seats. The managers certainly knew when ten thousand had passed the turn-stiles, for these machines were made on purpose to register the number going through; and the police absolutely *made* the crowd go through in regular order.

There was one other sad occurrence. During the bombardment, at the close of the mock battle, while a great charge of musketry was going off, *bullets* were flying in different directions. A boy seven years old, not very far from where Huber and I sat, was shot through the heart and killed instantly. He had just been rejoicing at the magnificent display of fireworks when he was shot dead right by his mother's side. Four people all together were hit by bullets, and one soldier, if I am correct, was killed. The only explanation offered is that, by some piece of carelessness, some cartridges containing bullets were mixed in among the blank ones to be used in the mock battle.

The fireworks did not commence until nearly nine o'clock, and the great crowd was kept there waiting on account of some horse-racing that I neither understood nor cared about, and I presume there were many others like myself. It was nearly 12 o'clock when the exhibition was over; then Huber had to make another siege into the crowd to get tickets for the street-cars. When we got back to the great city of Columbus all the hotels were full, and we were obliged to get lodging at a boarding-house. The weather was excessively warm. The mercury had touched 97 during the day. We had to sleep in one little room with one small window in it. I said *sleep*; but it was very little sleep that either Huber or I got, on account of the heat radiated from the walls that had been exposed to the fierce blazing sun all day.

We got up early in the morning, and went out to the grounds of the State University of Ohio. As it was too early in the day for the professors to be around, or anybody else, very much, I stretched myself on the soft dry grass, a little secured from observation by a clump of trees; and as I sank into unconsciousness I wondered why people would pay 50 cents for the privilege of sleeping in a hot stuffy room when all outdoors was open and free to all mankind. Dear me! what a contrast! During such dry sultry weather I would rather *pay* for the privilege of lying down on the grass, under God's blue sky, than to take any bed indoors at any price. And then I

thought of the text, found in the 55th of Isaiah, "Why do ye spend money for that which is not bread, and labor for that which satisfieth not?"

This was Huber's first visit to the University grounds and buildings belonging to the State of Ohio. We had some very pleasant talks with the professors, and visited and looked over the various buildings. Huber was especially interested in the mechanical and electrical buildings; in fact, our visit was with the view of having him, sooner or later, take a course at the University. I have before mentioned the beautiful new gymnasium. Along toward noon I noticed that a restaurant was kept in the basement, for the benefit of students, especially for those who are working hard, and using economy to get an education. They have a very pretty lunch-room where various articles are furnished for only three cents; for instance, a glass of milk, a cup of coffee, a dish of soup, a sandwich, bread and butter, and various other things, are served for the trifling amount mentioned. I had quite a chat with the young man who had charge. This lunch-room is under the management of the *cooking-school*; and boys as well as girls are taught to cook, and do house-keeping and other work of that sort. Now, I do think this is an exceedingly bright idea, to have every boy taught to cook and do house-work whenever it may be convenient or necessary for him to do so. Permit me to state briefly that our Ohio State University not only teaches the young people in its nice buildings, but on its grounds it is testing and using all sorts of building materials produced in this State. They have samples of the different kinds of brick made for different purposes; samples not only of all sorts of sidewalks and pavements, but good roads built by all modern processes. This University expects to not only be able to advise farmers in regard to what machinery they shall procure, but they test, examine, and weigh and measure, not only every thing that is produced, almost, that is wanted on the farm, but they in like manner examine and report on machinery for all industrial enterprises. I have before this mentioned the very complete buildings and apparatus for the manufacture of cream, butter, and cheese. After the boys have had a course, even a brief one, at the University, they are not likely to be taken in by "creamy sharks," or sharks of any other sort, that are endeavoring to impose on the farmer.

Permit me, before closing, to mention a little experience with a set of sharpers on the streets of Columbus. Of course, we purchased excursion tickets to the State Fair. Well, two friends accompanied us who live in the southern part of the State. They were not going to *return*, therefore I undertook to dispose of the return portion of their tickets. As we were in a hurry to get over to the State Fair, I went out on the streets with the two tickets in my fingers. Very soon a man I did not like the looks of asked what I would take for them, and put out his hand for them. I felt some misgivings about letting him get them in his fingers, in a crowd on the street,

but I finally let him take them. He first said they were not good; but a man who stood near him offered me a dollar apiece for them. I finally told them, as I was in a hurry, they might have the two for \$1.25 each. At this a third party offered me \$1.50 apiece for them, and pushed the money right over toward me. The man who first got hold of the tickets interposed. "Look here, gentlemen, this is *my* trade. The man offered them to me for \$1.25 each and he can not sell them to anybody else until I accept or reject his offer."

Then I became a little rattled, and foolishly assented to this proposition. I forgot that it takes *two* to make a bargain. If you offer a piece of property for a certain price, *until* this offer is accepted you are at liberty to recall it. The man who held the tickets finally declared that he accepted my offer, put his hand in his pocket, and fished out a dollar which I took while he was feeling in his pocket for the rest of the money; but finally, as quick as a wink, he slipped into the crowd and twisted around so I almost lost sight of him, keeping my tickets and the \$1.50 due me. I got my eye on him, however, and demanded the \$1.50. He finally gave me another dollar, and said in a low tone that he was just trying to evade a policeman who was going to arrest us both, as it was against the law to sell tickets on the street. He had taken my dimensions, or at least thought he had, and I came pretty near letting him go; but I finally decided that, if it was against the law to sell tickets on the street, I would take the consequences. Finally somebody called to him from a distance to "give that man the rest of his money, and do it quick;" then he gave me 25 cts. more, and slipped off. The person who had interfered in my behalf then came up and informed me that he was a constable, and was watching to catch that very chap, for he had been told that a new dodge of theirs was to get possession of the tickets, and then get away with them and with the money too. He explained to me that if I was inside of a ticket-office I could safely let the man behind the counter examine my tickets. "But," said he, "when you are out on the streets, especially in a crowd, never let anybody take your ticket out of your fingers. If you wish to sell it you can show it to them all they need to see; but just keep it in your own hands."

I have thought best to give this little incident, because it may be of benefit to those whose experience, like my own, may be quite limited.

THE POTATO CROP FOR 1899.

Although potatoes started out very fairly (and, in fact, the early ones did very well until half grown), during the latter part of the season there have been a good many troubles for the potato-grower. First, the blister-beetles came in our locality worse than they ever did before, and a good many growers just gave up and let the beetles eat up everything. We fought them inch by inch, and killed them by the bushel by shaking them

into a pan with a little water, and a little coal oil on the surface. One day we had four men at work all day, and they worked hard. Some questioned as to whether the potatoes would be worth the expense and trouble. Well, we got rid of the pests, or pretty much so, and the potatoes started to leaf out again. Then came the very hot weather and the drouth, and many varieties succumbed to the blight. The Triumph was first, perhaps, to die down completely; and that is the great trouble with this extra-early potato. The Bovee did very much better. In fact, our Bovees, planted after strawberry-picking on the strawberry-ground, are still green, and are growing finely. The Thoroughbreds stood the blight and heat better than the Triumph, but they are now dead, considerably before the crop was fully mature. The Early Ohios, planted late, are still green and growing. Burpee's Extra Early held out longer than any of the other earlies, but finally went down. Mills' Prize is, part of it, green and growing now; but the blight hurt it; the same with the Rural New Yorker, Carmans 1 and 3, and Sir Walter Raleigh. The two latter are going to give us a magnificent crop in spite of the drouth. Manum's Enormous, much to my surprise, has pretty much died down. The crop will be only fair. But the new Craig (as it has always before on our grounds) stands head and shoulders above every thing else so far as blight is concerned. It is now green and growing, and the ground is puffing up with great handsome smooth potatoes.

To tell the truth, I have not tried the Bordeaux mixture for the potato blight. The greatest reason why I have not tried it is because so many who did try it, and who seem to have followed it up faithfully, report so little advantage. On the island of Bermuda it was really a question as to whether any application of chemicals did any good at all; and yet there are certain places, both in the Bermudas and in our own country, where the Bordeaux mixture seems to be a perfect remedy. I can not explain why there should be so many failures. Now, it may be that our potatoes are not affected by the genuine blight; but I call it blight; and this kind of blight is certainly produced, at least to a great extent, by a hot sun and a lack of rain. Potatoes that were shaded by large trees, or even partly shaded, especially in the afternoon, in every case kept green a great deal longer; and the potatoes in the orchard, that were covered with straw, although they were Early Ohios and Early Vermont, were never touched by blight at all until the drouth was so severe that the ground was dry and hard, even down under the straw. We did not put on straw enough. Where it was applied, say two or three feet in thickness, potatoes are now green, and growing with rank luxuriance.

One thing more: Where a very heavy growth of crimson clover and wheat was plowed under, the blight did not affect nearly as much. Heavy manuring I have always found to be a remedy for this sort of blight; but it may be that it is because so much humus in the soil collects moisture and holds it.

Now, besides the bugs and the blight there is one other trouble we have had to contend with this year. The scab is fearfully bad on certain varieties. You may remember I bought a barrel of potatoes of one of our friends who thought they never would be scabby. I planted them on our worst ground for scab, and the product is the worst lot of scabby potatoes I ever saw. I also had some russet potatoes that were claimed to be exempt from scab. I think they are a little better than some other kinds, but a great many of them are quite scabby. There certainly is a great difference in varieties. Our Carman No. 3, Sir Walter Raleigh, and Mills' Prize, are comparatively free from scab; and the New Craig is, we might say, entirely free. This year, like all other years since we have had it, it seems to be almost proof against bugs, blight, and scab; but, sad to tell, it does not behave thus in all other localities. In fact, the Ohio Experiment Station reported that it seemed to be particularly *susceptible* to blight; and yet I was going to call it a blight-proof potato. Did you ever!

Now there is another thing about blight and scab both—yes, and we might say bugs also. As a rule, potatoes planted in July escape all three. During the extremely hot weather the last of August, the blight began to show on my late-planted potatoes. But we have had abundant rains and cooler weather for about ten days, and the potatoes have taken a new start, and are just growing grandly. I think we might grow even the Triumph without blight if we could plant it so as to have it mature just before frost. We planted a few the 7th of July. These were from potatoes grown this spring. They were doing grandly until the severely hot weather about the first of September, and then they began to blight, and almost dried up. Since the rains and cool weather, however, they too are starting up green; and if frost holds off we may get a fair crop.

Sept. 15.—I have just been down, raking over the surface, and fixing them up, and I pushed my hand into one of the hills and pulled out a beautiful clean handsome potato the size of a hen's egg.

You may remember that I paid Wm. Henry Maule \$10.00 for a single potato just two years ago. Well, this year I am going to have a big story to tell you about the quantity of potatoes I grew in the two years, from just one potato. They are not dug yet, however. I put my fingers into one hill and pulled out a potato that weighed $2\frac{1}{4}$ lbs. It is going to be the largest potato, as a rule, that I know any thing about; but, unfortunately, it is not as smooth and handsome a potato as the Carmans; and, by the way, when we come to *quality*, there is nothing in the whole list that comes up to the Freeman, unless it is Mills' Prize. The latter is not as handsome in shape as Carman No. 3, but it comes pretty near it; and if the quality this year should be equal to what it was last, I think I would place it at the top of the heap for an all-round *late* potato. Let me make a brief summary:

The Triumph is the *earliest*; Bovee comes next; the Early Ohio is the most *popular* early

potato; the Freeman is the best *quality* of any thing, either early or late; Carman No. 3 is the *handsomest*; and the New Craig, on our grounds, is the nearest to being bug-proof, blight-proof, and scab-proof.

BUGS, POTATOES, AND COTTON-SEED MEAL.

In regard to using cotton-seed meal on potatoes, this is my experience this year:

I planted two acres with 200 lbs. of meal in the drill, per acre. In two rows I put double that quantity in the drill. Right alongside this patch was an acre and a half without any thing on it except the potatoes. The potato-bugs attacked the *entire patch*, "without fear or favor." But one of your Faultless sprayers "laid them out." (Don't tell Mr. Taylor.)

M. S. LUSBY.

Nursery, Texas.

Humbugs and Swindles.

Just now there seems to be a good deal of money got by advertising to teach hypnotism. A subscriber of ours, away across the ocean, sent to a man in Chicago, in answer to an advertisement. First he had to send 50 cents; but the fifty-cent book was mainly devoted to advertising a larger one, the price of which was \$4.00. The little book was so sure the four-dollar one would make the directions so clear that any one could hypnotize folks, that our friend sent on the \$4.00. He received the book; but this, too, was devoted mainly to telling about the wonderful things an expert could accomplish in this line. But the author stated that the only way to get to be a *real old hand* at the business was to attend a school of instruction. I think this instruction could be given by mail, where the parties were off at a great distance. Said "instruction" required \$50.00, and our subscriber was asking me if I could ascertain whether Prof. So and So was reliable. We located the man, and found on inquiry that he was getting a good deal of money from some source, and lived in pretty big style, but did not seem to own any thing.

Just now a professor hailing from Jackson, Mich., is sending out circulars of similar import. His course of 20 lessons costs \$5.00.

Now, friends, this whole business is simply a revival of an old humbug and swindle. When you get to the point where you are prepared to believe every thing some humbug professor says, where you promise to *do* every thing he tells you, no doubt some very curious things may be accomplished; but the statement that one man can hypnotize another, whether he consents to be hypnotized or not, is a point-blank falsehood; and the statement that *any* one can be hypnotized is another falsehood. There are some wonderful things, it is true, that can be accomplished along the line of clairvoyance and hypnotism; but you will find it is safe to let the whole thing entirely alone. Its victims usually get into idiotic or insane asylums, and it is a great pity the "professors" who take their money are not *equally* sure to get into penitentiary for life.